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ABSTRACT

Study objectives were to: increase the understanding of rural to urban migration processes in Africa and Sierra Leone; develop and test a theoretical schema and survey methodology for migration research; and evaluate the effects of policy on migration. The migration survey was conducted in rural areas, urban areas, and again in the rural areas during 1974-75; the survey featured: rural and urban data collection (socioeconomic and attitude variables); tracing migrants (N=800) from specific locations; integration of migration and farm (500 households) surveys; complete coverage of urban migration streams; simultaneous analysis of rural to rural and rural to urban migration; and multidisciplinary research on migration. Findings indicated: major rural to urban migrants were the young and educated who had high expectations, came from higher income families in the southern regions, migrated to Kono or Freetown, maintained close contact with place of origination, and had urban relatives or friends; the modified cost/returns model confirmed the importance of economic variables, influenced by education, attitude, and rural-urban income differentials but not urban unemployment; policy implications were the need for increased and equally distributed rural incomes, food pricing strategies, modified rural tariffs, rural credit sources, modified wage policies, and investment in small-scale industry and education. (JC)

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RURAL-URBAN MIGRATION IN SIERRA LEONE: DETERMINANTS AND POLICY IMPLICATIONS

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by
Derek Byerlee, Joseph L. Tommy
and Habib Fatoo

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AFRICAN RURAL ECONOMY PROGRAM

The African Rural Economy Program was established in 1976 as an activity of Michigan State University's Department of Agricultural Economics. The African Rural Economy Program is a successor to the African Rural Employment Research Network which functioned over the 1971-1976 period.

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PREFACE

This paper has been developed as part of a three year study of rural employment in tropical Africa financed under a United States Agency for International Development contract (AID/csd 3625) with Michigan State University. The research in Sierra Leone was carried out under a subcontract to the Department of Agricultural Economics and Extension, Njala University College, Sierra Leone, under AID/csd 3625. The research program at Njala University College was also supported by a grant from the Rockefeller Foundation and the Population Council--the latter specifically to cover the field research costs of the migration study reported in this paper.

This first report on the Sierra Leone migration survey together with previous African Rural Employment Papers by Derek Byerlee, "Research on Migration in Africa: Past, Present and Future," and by Sunday M. Essang and Adewale F. Mabawonku, "Determinants and Impact of Rural-Urban Migration: A Case Study of Selected Communities in Western Nigeria," have been developed to specifically address a major objective of the African Rural Employment Study--that is the determinants and characteristics of rural out-migration in Africa.

We would like to express appreciation to the many persons who contributed to this study. In Sierra Leone we are grateful to our research assistants, Ola Roberts and James Kamara; our enumerators and numerous respondents. At Michigan State University, particular thanks are due our computer programmer, Linda Buttel, and as always Janet Munn for her secretarial services.

INTRODUCTION

Only a decade ago rural-urban migration was regarded as a necessary element of rapid economic development. Popular theories and economic history depicted development as the process of moving labor from agriculture to industry with industrialization as the driving force of economic growth. Moreover this labor transfer from agriculture to industry was, and still is, widely equated with movement from rural to urban areas. The disappointing growth rate of agriculture combined with rapid urbanization and high urban unemployment rates has led to a questioning of this strategy. In particular urbanization has been proceeding much faster than industrialization and growth in industrial employment has lagged far behind increases in industrial output.

The magnitude and importance of rural-urban migration in most African countries including Sierra Leone is increasingly recognized as a problem by policy makers and planners. At least three dimensions of this problem can be distinguished: (a) the rate, (b) the concentration and (c) the composition of migration. The rate of migration may be too high for both economic and social reasons. Numerous authors (e.g., Fisher, et al. [1970], Byerlee [1974], Todaro [1971]) have noted various price distortions such as high urban wage rates and low agricultural prices particularly for export crops which act to increase rural-urban income differentials and increase migration. Moreover the rapid influx of migrants into urban areas and the stagnation of employment in urban large-scale sectors has contributed to high rates of urban unemployment--usually in excess of 10 percent.

The burden that migration places on the urban labor market is illustrated by the case of Freetown, Sierra Leone, which is estimated to be

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growing at the relatively modest rate of 5.5 percent annually, while employment in large-scale sectors is growing at most by 2 percent annually.[1] Given that about half of the urban labor force is employed in large-scale sectors, the implied growth rate of the labor force which must be absorbed in small-scale sectors or become unemployed is of the order of 10 percent per year.[2] In addition to these urban problems, high rates of rural-urban migration deplete rural labor which is a limiting factor to agricultural production [Byerlee and Eicher, 1974]. In Sierra Leone, there is evidence of a decline in export crops as well as an increase in food imports corresponding to the "diamond rush" of the 1950s.

The problems created by high rates of migration are compounded by the concentration of migrants in one or two large cities. As Hance [1970] notes, most African countries have one "primate" city--usually the capital--which is also the fastest growing city in the country. As a result urban problems of housing shortages and unemployment are concentrated in the largest city. In Sierra Leone, over half of the unemployed reside in Freetown, the capital city.

The composition of rural-urban migrants is a further dimension of the rural-urban migration problem. Rural-urban migrants are, on the average, younger and better educated than the rural population from which they originate. Since education represents a considerable propor-

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[1]The distinction between small-scale and large-scale sectors follows Byerlee and Eicher [1974]. The literature variously refers to modern and traditional sectors, formal and informal sectors, etc., to make a similar distinction.

[2]Byerlee and Tommy [1975] compute that the equivalent growth of the labor force which must be absorbed in small-scale sectors or become unemployed for Nairobi and Abidjan are 25 percent and 12 percent respectively.

tion of total rural investment in many rural areas, rural-urban migration embodies a substantial capital transfer to urban areas [Byerlee, 1974; Essang and Mabawonku, 1974; Schuh, 1976]. This is a particular concern because capital is a constraint on rural development, yet migrant school-leavers, the product of this educational investment, form the bulk of urban unemployment. There are also distortions in the educational system such as the emphasis on education as a criteria for job hiring even where education does not increase productivity in that job. In rural areas, too, the selective migration of younger people increases the age and the dependency ratio of the rural population intensifying the problem of rural labor shortages.

Recently there has been concern that the composition of rural-urban migrants leads to rural income inequalities. Lipton [1976] argues that since urban migrants depend upon rural relatives for support while looking for a job, only higher income rural households can afford to send migrants to town. However, if these migrants are successful in their job search they remit considerable amounts of their wages back to their rural households thus increasing income disparities in rural areas. A similar argument would hold if educated migrants originate in higher income households who can afford to educate their children.

Despite the widespread recognition of rural-urban migration as a problem in Africa, research on migration has not emphasized policy measures for dealing with the problem. As we have discussed elsewhere [Byerlee, 1974], extensive research has been undertaken on migration but the underlying theory and methodology of this research has been such that its policy relevance is limited. Research has often been descriptive in nature leading to a good knowledge of migrants' characteristics and

their processes of migration but little understanding of the determinants of migration. Numerous studies of migration in Africa have identified economic motives as dominant in the decision to migrate but only Sabot [1971], Essang and Mabawonku [1974] and Rempel [1971] have carefully measured urban incomes and none have measured incomes of rural households from which migrants originate. As a result reducing rural-urban income differentials has become a universal panacea for slowing rates of migration; but as we shall show in this paper, this fails to recognize the complexity of the migration process.

Part of the reason for these deficiencies in earlier studies stems from the methodology employed. Many studies (e.g., Beals, Levi and Moses [1967], Harvey [1975], Mabagunje [1970]) have used census information which is severely limited by information on current rates of migration and which is of no value for such important variables as incomes. As a result conflicting conclusions are often reached from census information.[1]

Numerous surveys of migration have also been undertaken but these are usually partial in scope emphasizing either the rural or urban side (but not both) and selective streams of migrants--most commonly male adults. The difficulties of using past results of research on migration in Africa for policy analysis thus stem from both deficiencies with respect to the underlying theoretical framework for analyzing migration processes and the methodology employed. In light of this background of previous migration research in Africa, the basic objectives of this

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[1]For example, Mabagunje [1970] in Nigeria finds a negative relationship between migration and regional per capita income while Beals, et al. [1967] in Ghana finds a positive relationship between the same variables.

study are (a) to develop a theoretical schema of the decision to migrate, (b) to develop an improved methodology for testing this schema, (c) to apply this methodology to a comprehensive analysis of rural-urban migration in Sierra Leone and (d) to formulate policy recommendations for influencing the rate, direction and composition of migration in Sierra Leone.

This report details the initial results of our findings from a comprehensive study of migration in Sierra Leone. First a theoretical schema of the decision to migrate is briefly presented and discussed, followed by a description of the integrated methodology employed in the study and some preliminary analysis of the representativeness of the sample.

The report then turns to a discussion of the survey results. The characteristics of migrants and the magnitude and direction of migration flows are described followed by an analysis of the migration process with emphasis on migration decision making and intra-urban and rural-urban income transfers associated with migration. Finally the urban labor market in which the migrant participates is analyzed with emphasis on the structure of urban earnings and unemployment.

The remaining sections of the report integrate the findings from the descriptive analysis to econometrically estimate the determinants of rates of migration. This is then used as a basis for a discussion of policy implications of the study presented in the final section.

THEORETICAL SCHEMA OF THE DECISION TO MIGRATE

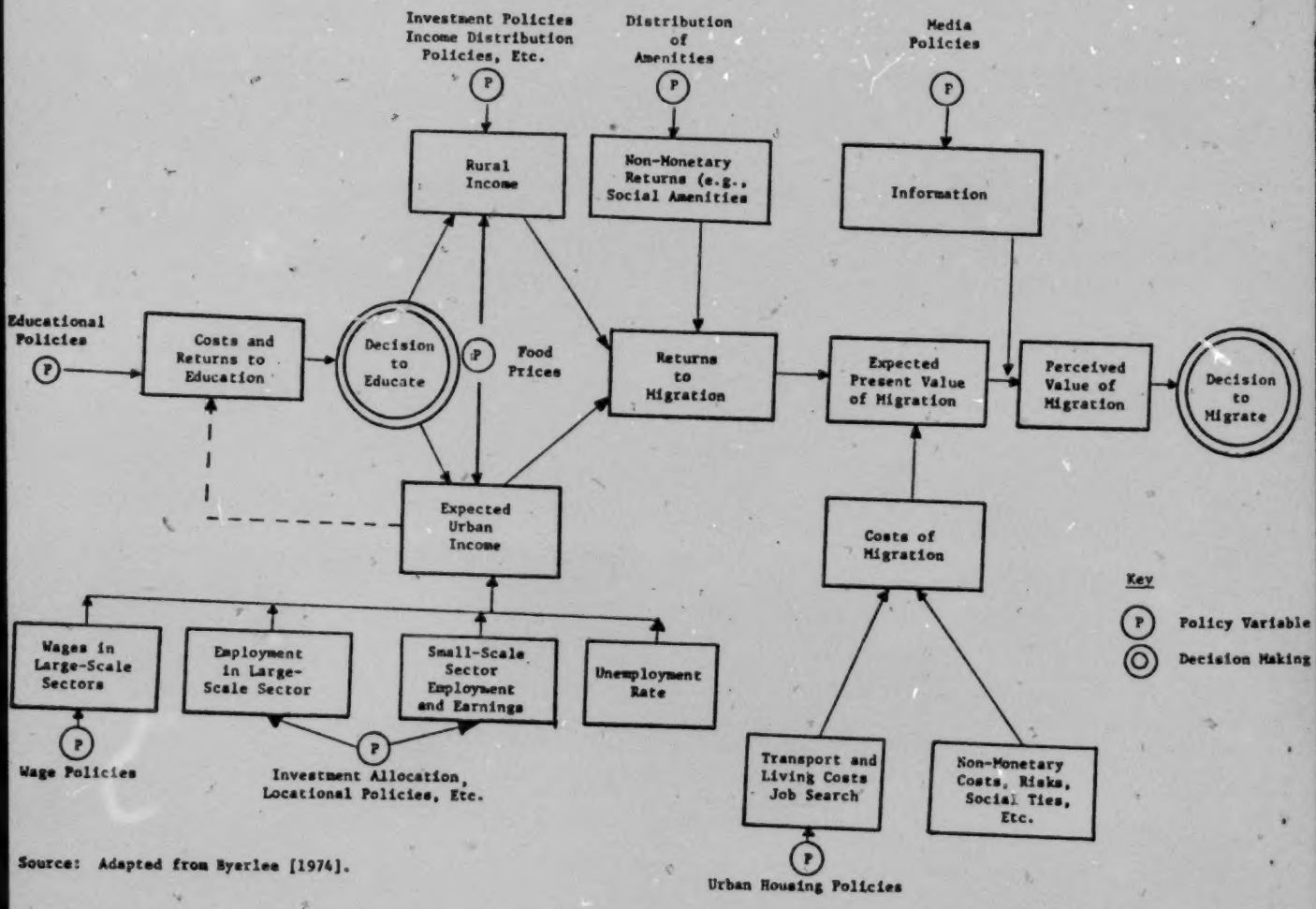
In Figure 1 we present a schema for viewing the decision to migrate. Factors affecting the migration decision can be conveniently segmented into (a) monetary costs and returns relating to incomes, moving costs and employment and (b) nonmonetary costs and returns relating to risk, attitudinal characteristics, social ties and expectations. Also a distinction is made between actual and perceived returns to migration according to the availability of information on urban life.

The monetary benefits of migration are determined by differences in rural and urban incomes. Measuring rural incomes to an individual is difficult where work and income is shared by a household [Knight, 1972]. Nonetheless a useful measure of foregone income is the marginal productivity of labor which depends on the age and sex of the migrant as well as a host of other variables such as capital stock and technology.

In urban areas the schema follows Todaro's [1969] expected income model based on the probability that a migrant will obtain a job in the large-scale sector with a high wage or alternatively remain unemployed. The probability that a migrant will be absorbed in the urban traditional sector with lower wages is however explicitly recognized in this schema. There are also nonmonetary returns to migration particularly the benefits from improved social amenities such as schools and hospitals and attainment of higher social status.

Costs of migration include the transport costs of moving, the opportunity costs of looking for a job in the urban area and the cost of "setting up house". This latter cost can be greatly reduced by the presence of friends and relatives in urban areas. Finally there are also

FIGURE 1
A SCHEMA OF THE DECISION TO MIGRATE



Source: Adapted from Byerlee [1974].

costs that cannot be readily measured in monetary units particularly the cost of breaking old and establishing new life styles which is most acute for older people.

Since educated migrants are of such overriding importance in the migration stream, we emphasize education in our schema. Education enters into the migration decision in various ways. First it may increase a migrant's access to knowledge of urban areas. Second it may enable migrants to derive additional value from urban life styles (and perhaps devalue rural life styles). Finally and most important there is ample evidence that despite unemployment the private returns to education are considerably higher in urban areas compared to rural areas (e.g., Todaro [1971], Sabot [1971], Hutton [1973]). An important and unresolved issue is the extent to which education affects the decision to migrate through each of these three mechanisms.

We would be remiss if we merely accepted education as a given variable in the decision to migrate. It is essential for long run analysis of migration to understand who gets educated--that is, we need to look also at the decision to educate. Again a costs-returns framework is a useful analytical device providing the variation of these costs and returns with individuals is also considered. It is generally true that the costs of education are relatively lower for high income families because of their ability to sacrifice present consumption for investment in education. Thus higher income households invest more in the education of their children [Kinyanjui, 1974; Mbilinyi, 1974].

The difference between costs and returns to migration is the expected present value of migration. However the migration decision is based on the perceived value of migration which differs from the actual

value according to the information available on the urban labor market. Although it is generally recognized that informal channels are the most important sources of information for migrants there is little evidence on the quality of this information.

The above simplified framework is useful in identifying and explaining various streams of migrants. In general we can distinguish three main types of migrants: (1) migrants in the labor force, (2) migrants attending school and (3) women who migrate for reasons of marriage.

Migrants working or seeking work readily fit the above schema. It is hypothesized that they perceive that expected benefits of migration are higher than the costs. These migrants will often be young since their time horizon for reaping the benefits of migration is longer and the cost of breaking old and establishing new life styles are less for young people. Moreover it is convenient to distinguish between the educated and the uneducated in this stream. The significance of this for policy purposes is that we hypothesize that uneducated migrants are likely to conform to the conventional notion that urban migrants originate in poor rural households and in poor regions of the country, whereas educated migrants tend to originate in higher income rural households and more developed sections of the country with long established educational institutions.

The decision of migrants to attend school in urban areas also follows our framework except that the decisions to educate and migrate are taken simultaneously but still based on perceived long-run costs and returns. We hypothesize that there are at least three categories of migrant scholars: (1) those who have to leave home to attend school because there is no school available in the rural area, (2) those who leave because

urban education is perceived to be of higher quality than rural education and therefore to have higher returns and (3) those who have urban relatives who can support the costs of education in town.

Finally many women migrate for reasons of marriage. There are those women who are married when they migrate and whose decision to migrate may be made by the husband. If this is the case, she can be regarded as a dependent and should not concern us in policy analysis. However, a second category of women migrate to find a husband in town. This type of migrant can be readily analyzed within our framework since it can be presumed that the monetary and nonmonetary benefits of a urban marriage induce this migration. Unfortunately most surveys of migration in Africa are based on samples of male migrants and relatively little information exists on the extent to which women migrate for marriage reasons or alternatively to find work.

In summary, the theoretical schema developed here emphasizes economic variables in the decision to migrate although the importance of many other factors such as risk, expectations and social ties are also recognized as affecting individual decisions. But to adequately analyze these motives, the urban labor market must be disaggregated into large-scale sectors, small-scale sectors and the unemployed. Furthermore it is essential to disaggregate migration streams by educational level to capture earnings differentials between rural and urban sectors and within urban sectors.

THE INTEGRATED METHODOLOGY FOR THE MIGRATION SURVEY

Features of the Integrated Methodology

The survey methodology we employed in Sierra Leone was designed to overcome some of the obstacles to policy analysis inherent in previous methodologies employed in migration surveys in Africa. Essentially there are six features in this methodology which lead to the generation of an integrated set of data on rural-urban migration.

Rural and Urban Data Collection

Exclusive emphasis on studying migration in rural areas or in urban areas alone gives only one side of the picture. In the Sierra Leone survey, data were collected in both rural and urban areas and as a result direct comparisons can be made between rural and urban socio-economic variables and attitudinal characteristics. Furthermore, expectations of potential migrants in rural areas can be compared to the reality of actual migrants in urban areas. Finally both rural-urban migration and urban-rural migration can be surveyed providing greater insights into the migration process.

Tracing of Migrants

The rural and urban data were made more comparable by tracing migrants from specific locations into urban areas. By focusing on migrants from given villages or other well defined areas (e.g., census enumeration areas), the variance of variables describing the rural environment such as agricultural production systems, incomes, ethnic group, distance, etc., is greatly reduced. This may enable a reduction in overall sample size of urban migrants, and hence a more indepth study of this smaller sample.

Integration of Migration and Farm Management Surveys

The difficulty of obtaining accurate rural income data can be overcome if a migration survey uses the same sample as a recent or ongoing farm management or household expenditure survey where economic data are collected through continuous interviews over a period of time (or even in a detailed one contact interview). Of course, this presumes that the sampling method for the farm management survey is appropriate for the migration survey. In Sierra Leone our migration survey was integrated with a nationwide farm management survey. The farm management survey provides information on various measures of rural incomes such as household incomes, returns to family labor and wages for hired labor.

Complete Coverage of Urban Migration Streams

As shown above migration can be classified into various streams, such as migrants in the labor force, adult migrants not in the labor force (primarily housewives and scholars) and children who are sent to town as wards. Each of these streams was included in our survey to take into account the various decision makers and motives involved and to produce a more comprehensive analysis of the migration process than is afforded by surveys which include only male adults (e.g., Rempel [1971] in Kenya).

Simultaneous Analysis of Rural-Rural and Rural-Urban Migration

The opportunity costs of migrating to urban areas is represented not only by the alternative of not migrating but also by the possibility of moving to other rural areas. In Sierra Leone information was also collected on rural-rural migrants and both rural-rural migration and rural-urban migration were analyzed.

Multi-disciplinary Research on Migration

Since migration research is in the domain of several disciplines a fuller understanding of the migration process can be achieved through involving more than one discipline. In our case we are combining agricultural economics and rural sociology.

The Sierra Leone Migration Survey in Practice

The migration survey was conducted in three phases in 1974/1975 beginning in the rural areas, then moving to urban areas and finally back to the same rural areas. Details of questionnaires are shown in Table 1.

Phase 1: Rural Areas

Since one of the features of our migration survey is its integration with a farm management survey, the rural sample for the migration survey was based on the sample for a nationwide farm management survey conducted by Spencer and Byerlee [1976]. The country was divided into eight resource regions shown in Figure 2 reflecting different ecological zones and hence farming systems. Within each resource region, three census enumeration areas (E.A.s) were chosen at random with the exclusion of localities exceeding a population of 2,000 (the former Sierra Leone definition of an urban area). For the farm management survey, twenty households were randomly chosen within each enumeration area for a total sample size of about five hundred households. Each of these households was visited twice weekly over a cropping year to obtain data on labor inputs, output, expenditures, remittances and incomes.[1]

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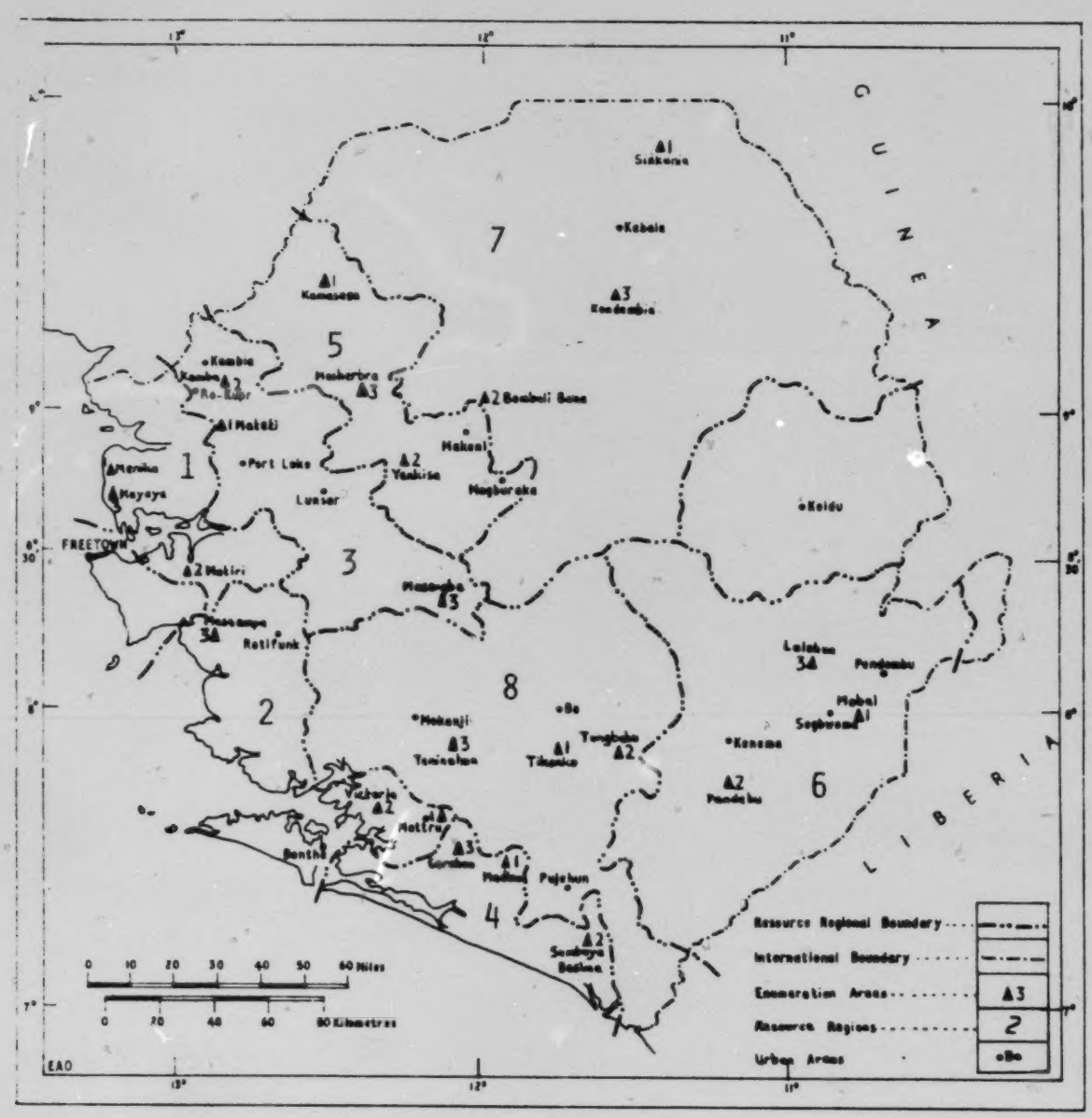
[1] See Spencer and Byerlee [1976] for more details.

TABLE 1
OVERVIEW OF THE SAMPLING PROCEDURE AND QUESTIONNAIRES USED IN THE SIERRA LEONE RURAL-URBAN MIGRATION SURVEY

Questionnaire Number	Title of Questionnaire	Sampling Procedure	Sample Size	Frequency of Interview	Contents of Questionnaire	Major Variables Derived
MG-1	Rural Origin questionnaire	All households in 24 enumeration areas of farm level study.	30,000 persons	Once	Age, sex, education, fertility, last place lived, mortality. Names and addresses of out-migrants.	Basic demographic parameters. Population of enumeration areas. Population change. Rates of rural-urban migration.
MG-2	Urban migrants	All migrants traced into towns 2,000 above.	800 persons	Once	Detailed information on occupation, incomes, job search, support, property, social participation, the migration decision, transport, contacts with home, education, etc.	Urban incomes, unemployment. Rural-urban remittances, etc.
MG-3	Characteristics of rural villages	All villages in each of 24 enumeration areas.	100 villages	Once	Government, communications, social amenities, schools, leadership in each village	Description of rural environment.
MG-4	Return migrants	Ten persons in each enumeration area who have lived in town and returned home.	150 persons	Once	Migration history, life in town, reasons for returning home	Determinants of return migration.
MG-5	Out-migrant households	Heads of households with household members away in town.	150 persons	Once	Decision making, exchange of gifts.	Decision making for migration. Use of remittances.
MG-6	Nonmigrants	Males in each enumeration area, 15-30 years who have not left that enumeration area.	150 persons	Once	Migration intentions and perception of urban areas.	Determinants of decision to migrate or not migrate.
MG-7	Attitudinal characteristics	Three migration streams purposely chosen. Both urban migrants and rural nonmigrants interviewed.	110 persons	Once	Attitudes to rural and urban life style, family ties, etc. Occupational prestige.	Effects of migration on attidudes.
MG-8	Unemployment	All unemployed migrants identified in MG-2.	30 persons	Once	Details of job-search, support, expectations.	Nature and causes of unemployment.

Figure 2. Rural Enumeration Areas and Urban Areas of the Migration Survey



The first phase of the migration survey was conducted in all households in each enumeration area (E.A.) including the five hundred selected households in the farm management study. A census was taken of all people in the E.A. to collect data on general demographic characteristics of the people such as age, sex, education, occupation, etc. At the same time, data were collected on fertility, mortality and in-migration (see Table 1). Finally each household was asked to provide the names and demographic characteristics of persons who had left that household. Addresses were collected where possible for those who had gone to urban areas.[1] Together these data enable changes in population in an area to be explained in terms of births, deaths and in- and out-migration.

Phase 2: Urban Areas

The collection of names and addresses of urban migrants from about 2,500 rural households in the first phase resulted in the names of about 2,000 migrants fifteen years old and above in urban areas. Of these one-third had gone to Freetown--the capital and main city. Table 2 shows that we were able to obtain some form of addresses for about half of all migrants although this proportion is considerably lower for migrants in the diamond mining areas (Kono-Tongo). We had little difficulty locating migrants because as soon as we had found one or two migrants from a given village they were able to tell us the whereabouts of other migrants from that same area. Indeed through this process we located many migrants

[1] Addresses were obtained from several sources including (a) the household head, (b) letters written home, (c) school children in the household who often know the whereabouts of brothers and (d) return migrants from town.

TABLE 2
DISTRIBUTION OF RURAL-URBAN MIGRATION SAMPLE BY TYPE OF ADDRESS, METHOD OF TRACING AND URBAN AREA

	Urban Areas (By Size)						
	Over 200,000	100,000-200,000	20,000-100,000			2,000-20,000	All Urban Areas
	Freetown	Kono	Bo	Kenema	Makeni	All Small Towns	
Sample Identified in Rural Areas							
Percent urban migrants identified by:							
a. Name and address	52	27	55	52	43	34	40
b. Name only	48	73	45	48	57	66	60
Total	100	100	100	100	100	100	100
Sample Located in Urban Areas							
Percent traced through:							
a. Name and address from rural sample	48	43	78	54	56	52	52
b. Name only from rural sample	7	10	0	2	11	5	6
c. Referral from other urban migrants (not identified in rural areas)	44	47	22	45	33	43	42
Total	100	100	100	100	100	100	100

who were not originally identified in the rural survey increasing the total number of migrants by over a third (see Table 2).[1]

Migrants who were traced and located were interviewed to obtain indepth information on jobs, migration history, initial support in town, remittances, expectations, plans to return home and socio-cultural factors (see Table 1). The incomes of these migrants were obtained using separate forms for wage and salary earners, self-employed traders and workers in small industries and the unemployed. Incomes for the self-employed which are particularly difficult to estimate are being checked against incomes estimated separately in a small industries survey conducted by Liedholm and Chuta [1976]. Overall, we traced and interviewed over eight hundred migrants in sixteen urban areas.

Phase 3: Rural Areas

The final phase of the study involved a return to the same rural areas to interview three groups of rural people.

Heads of Out-migrant Households. Heads of households from which migrants have left for urban areas were interviewed to supplement the interviews with migrants in urban areas. This was important since in many cases these household heads have been heavily involved in the migration decision of a household member. For example, the decision of school children or wards to migrate at an early age is almost entirely made by the rural household head. Thus the household head was interviewed to determine the motives and reasons for sending or encouraging someone to live in town. At the same time estimates of remittances of migrants and

[1] Enumerators were paid a bonus of Le .20 to Le .25 in lieu of overnight allowances, etc., for every migrant located and interviewed (le 1.00 = U.S. $1.10).

the extent to which these remittances were invested in agriculture and other businesses were obtained.

Return Migrants. Phase 1 of the survey indicated that for every three rural-urban migrants there were about two urban-rural migrants, many of whom were return migrants. Hence of particular interest to us are the determinants and consequences of return migration. A sample of urban-rural migrants was interviewed to obtain information on their stay in town, their reasons for returning and the impact that migration has had on their rural social and economic status.

Nonmigrants. Nonmigrants in rural areas were interviewed to understand why people do not migrate. Nonmigrants may be classified as those not intending to migrate and those intending to migrate. In both cases expectations of urban incomes and jobs were measured to determine the gap, if any, between rural expectations and urban reality. The sample of nonmigrants was weighted toward those most likely to migrate, i.e., male, young and educated persons.[1]

Preliminary Analysis of the Sample of Traced Migrants

If rural areas are sampled randomly and all migrants identified are traced into town the urban sample will also be random. However because of time constraints it was not possible to trace all migrants and possible biases in the urban sample may result if some groups of migrants are more easily traced than others. Prior to our analysis of the data we have

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[1]The sampling for all three questionnaires in Phase 3 was drawn such that selected farm management households were included in the sample if they fitted one or more of the categories: out-migrant households, return migrants and non-migrants. For these selected households accurate income data are available. For other households a short questionnaire on total output of crops was administered. This was converted to household income through correlations derived from the farm management survey.

run some checks on sample bias by comparing the characteristics of urban migrants identified by rural residents in Phase 1 of the survey, with the characteristics of migrants actually traced into urban areas. Table 3 gives a distribution of both samples by origin and destination. In general there is good correspondence between the two samples although the traced sample is clearly underrepresented in Kono in the diamond mining areas where we had few addresses. In Table 4 some general demographic characteristics of the two samples are compared. In the case of the percentage male and the average age in each sample there is a very good correspondence in nearly all cases. However our traced sample has a consistently higher level of education than the rural sample. Reasons for this include (a) higher success in tracing scholars in the town of Bo and Kenema (see Table 4), (b) the concentration of our good enumerators in the better educated southern part of the country leading to higher success in tracing and (c) likely understatement of the education of absent migrants by rural household heads, particularly for scholars who have acquired education in town. Overall we do not view this bias as serious since in any event urban incomes are estimated and analyzed for each educational subgroup. In addition the tracing provides several advantages which outweigh this possible disadvantage. For example we obtained excellent cooperation in urban areas when migrants learned we had visited their home area and obtained their name and address (and sometimes messages for the migrants) from a relative. This cooperation was important to obtaining accurate data on sensitive variables, such as income.

TABLE 3
DISTRIBUTION BY ORIGIN AND DESTINATION OF MIGRANTS TRACED TO URBAN AREAS COMPARED TO MIGRANTS IDENTIFIED IN RURAL SAMPLE

Rural Region \ Urban Area (By Size)	Destination (j)						
	Over 200,000	100,000-200,000	20,000-100,000			2,000-20,000	Rural Region Total
	Freetown	Kono	Bo	Kenema	Makeni	All Small Towns	
1. Scarcies	2.4 3.6	1.1 1.1	0.0 .3	0.0 .1	.2 .3	.7 1.1	4.4 6.5
2. Southern Coast	6.5 3.2	.5 1.1	2.4 1.4	.1 .4	0.0 .2	2.8 2.6	12.3 8.9
3. Northern Plains	4.0 7.5	2.7 5.6	.1 .6	0.0 .5	1.1 1.6	1.3 4.4	9.2 20.2
4. Riverain Grasslands	3.0 1.5	.5 .9	1.8 1.0	.4 .4	.2 .1	2.7 1.8	8.6 5.7
5. Bolilands	13.1 9.2	1.0 1.6	1.3 .5	0.0 .4	2.3 1.8	2.2 1.9	19.9 15.4
6. Moa Basin	1.5 1.9	4.2 3.9	0.0 .8	6.3 4.5	.2 .3	1.5 3.6	13.7 15.0
7. Northern Plateau	3.4 2.4	1.9 5.5	0.0 .1	0.0 .4	.8 .6	2.3 2.8	8.4 11.8
8. Southern Plains	6.5 2.9	5.8 3.8	5.8 3.7	2.2 1.7	0.0 .3	3.8 3.6	24.1 16.0
Total	40.5 32.4	17.3 23.5	11.0 8.4	8.8 8.4	5.0 5.2	17.3 21.8	100.0 100.0

Key: Upper left corner: Migrants traced from rural region, i, to urban area, j, as percent of all migrants traced (total 825).

Lower right corner: Migrants identified in urban area, j, by survey in rural region, i, as percent of all migrants identified in rural sample survey (total 1,900).

TABLE 4
CHARACTERISTICS OF MIGRANTS TRACED TO URBAN AREAS COMPARED TO MIGRANTS IDENTIFIED IN RURAL SAMPLE

	Urban Area (By Size)						
	Over 200,000	100,000-200,000	20,000-100,000			2,000-20,000	All Urban Areas
	Freetown	Kono	Bo	Kenema	Makeni	All Small Towns	
Percent male							
Rural sample[a]	64	61	58	54	59	52	59
Urban sample[b]	68	62	59	77	65	55	65
Average age							
Rural sample	28.2	25.9	25.8	22.9	27.7	28.5	27.3
Urban sample	29.0	28.9	27.8	24.0	26.5	28.7	28.3
Average education (years)							
Rural sample	3.5	2.0	4.7	4.6	3.6	3.4	3.3
Urban Sample	4.9	3.6	7.2	7.2	5.1	4.2	5.0
Scholars as percent all migrants							
Rural sample	13	5	22	27	17	17	14
Urban sample	12	4	30	42	24	25	18

[a]Sample of urban migrants identified by interview in rural areas.

[b]Sample of urban migrants traced to urban areas.

CHARACTERISTICS OF MIGRANTS AND RATES OF MIGRATION

We now turn to a presentation of the results of our Sierra Leone migration survey beginning with a description of migrants' characteristics and estimation of migration rates. However before proceeding with this analysis we divert briefly to establish an operational definition of categories of migrants used in this study.

Definitional--Who is a Migrant?

Migrants for the purpose of this study were defined on the basis of both space and time dimensions. To qualify as a migrant an individual must have crossed a chiefdom boundary, or moved to an urban area within that chiefdom.[1] In crossing a chiefdom boundary a migrant was classified as a rural-rural migrant if he or she moved to another rural location. Rural locations were defined as any location with less than 2,000 persons--the size limit officially used in Sierra Leone. A rural-rural migrant was defined as an intraregional migrant if he or she moves to an area inside the same resource region and an interregional migrant if he or she moves across a resource region boundary. Alternatively a migrant was classified as a rural-urban (or urban-rural) migrant if he or she moved to (or from) an urban area--i.e., towns above 2,000 persons. In much of the following analysis towns are grouped by size as shown in Table 5 with each group having characteristics related to its economic base. Finally migrants were classified as international migrants if they had moved across a national boundary--in this case mainly to and from Guinea and Liberia.

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[1] The chiefdom is the basic unit of local government in Sierra Leone.

TABLE 5
URBAN GROUPINGS, SIZES AND ECONOMIC CHARACTERISTICS

Groups	Towns	Estimated Population Size of Towns	Total Population in Groups (Approximate)	Economic Characteristics
Freetown	Freetown	275,000	275,000	Capital city and main commercial and industrial center
Kono	All towns in Kono District and Tongo fields	100,000+	110,000	Main diamond mining area
Medium towns	Bo Kenema Makeni	20,000-50,000	100,000	Provincial capitals, educational services and some industry
Small towns	Bonthe Rokupr Segbwema Kabala etc.	Less than 20,000	130,000	Some district capitals, largely commercial centers for rural areas

In the time dimension, a migrant must have resided in an area for longer than six months to be considered a migrant to that area. This eliminated the problem of classifying people visiting towns and school children returning home at vacation time as migrants. For a migrant who had left his place of birth and moved to another area and then returned home again he must have resided in that place for six months or more and have returned for six months or more to be considered a migrant. An individual who satisfied these criteria was defined as a return migrant since he had returned to his home area after a period of residence elsewhere.

In summary a migrant was defined as a person who had moved across a chiefdom boundary for at least six months. A nonmigrant was defined as an individual who had resided in his chiefdom of birth all his life or who had not resided elsewhere for more than six months.

Classification of the Rural Population

Using the above definitions, the rural population was divided into various groups--nonmigrants, rural-rural migrants, urban-rural migrants and international migrants. Table 6 shows the disaggregation of the rural population for each rural region. Nonmigrants consistently comprise about two-thirds of the rural population. Rural-rural and urban-rural migrants are about equal in importance and together contribute about 25 percent of the rural population. Each of these groups is divided into return migrants and migrants born elsewhere. Return migrants form about half of all urban-rural migrants but a very small proportion of rural-rural migrants. International migrants are generally unimportant except in Region 7 which borders with Guinea and shares several ethnic

TABLE 6
DISAGGREGATION OF THE RURAL POPULATION IN EACH REGION BY NONMIGRANTS, RURAL-RURAL MIGRANTS, URBAN-RURAL MIGRANTS AND INTERNATIONAL MIGRANTS

Migrant Category	Percent of Rural Population in Each Region[b]								
	1 Scarcies	2 Southern Coast	3 Northern Plains	4 Riverain Grasslands	5 Boli-lands	6 Moa Basin	7 Northern Plateau	8 Northern Plains	All Rural Areas
Nonmigrants	77	62	76	71	73	66	64	70	69
Rural-rural migrants	11	26	15	21	11	16	6	15	13
Return migrants	1	7	1	3	4	1	0	1	2
Migrants born in other rural areas	10	19	14	18	7	15	6	14	11
Urban-rural migrants	9	11	9	7	15	16	5	14	11
Return migrants	1	5	3	4	5	6	1	6	4
Migrants born in other rural areas	2	2	2	0	3	2	0	2	2
Migrants born in urban areas	6	4	4	3	7	8	4	6	5
International migrants	2	1	0	1	1	2	25	1	7
Total rural population[a]	100	100	100	100	100	100	100	100	100

[a]The rural population base used here excludes people who have resided in the area enumerated for less than six months and hence fall outside the definition of both nonmigrants and migrants.

[b]See Figure 2 for location of regions.

groups in Guinea. For this reason international migrants will be ignored in further analysis.

Rural-rural migrants and urban-rural migrants shown in Table 6 are in-migrants to that region. The opposite streams of migrants are of course rural-rural out-migrants and rural-urban out-migrants. Since we had a nationwide rural sample rural-rural out-migrants to one region are rural-rural in-migrants to another region and hence in the following discussion only rural-rural in-migrants are analyzed.

Characteristics of Migrants

Demographic Characteristics

Table 7 summarizes the education, age and sex characteristics of various groups of migrants. In general rural-rural migrants have characteristics resembling very closely that of the rural population as a whole which in turn is dominated by nonmigrants (see Table 6). However, the breakdown of rural-rural migrants into return migrants and migrants born elsewhere reveals that return migrants are substantially older and tend to be predominantly male. Urban-rural migrants, on the other hand, have a higher level of education and also contain a higher proportion of males. These characteristics are most pronounced for the return migrants who as in the case of return rural-rural migrants are also much older than other groups in the population.

The higher level of education and percentage of males among urban-rural migrants is a reflection of these characteristics among rural-urban out-migrants. Nearly half of all adult rural-urban migrants have some education at the time of migration as opposed to only 10 percent for the rural adult population as a whole (Table 7). It is significant that although

TABLE 7
EDUCATION, AGE AND SEX OF NONMIGRANTS, RURAL-RURAL MIGRANTS, URBAN-RURAL MIGRANTS AND RURAL-URBAN MIGRANTS

Type of Migrant	Education[a]			Mean Education	Age[a]				Mean Age	Percent Male
	None	Primary	Secondary		<15	15-24	25-34	>35		
	(Percent Distribution)			(Years)	(Percent Distribution)				(Years)	
Nonmigrant	91	8	1	.31	49	15	11	26	22.5	47
Rural-rural migrant	89	7	4	.47	32	24	17	27	23.7	45
Return migrants	87	8	5	.63	8	22	28	42	33.0	61
Migrants born elsewhere	90	7	4	.43	38	24	15	23	21.9	42
Urban-rural migrants	81	10	9	1.23	30	22	22	26	23.5	53
Return migrants	83	8	9	1.35	11	28	28	33	28.5	61
Urban born migrants	78	13	9	1.10	48	20	14	18	18.3	48
Total rural population[b]	90	8	2	.44	40	16	13	30	25.1	47
Rural-urban migrants	55	12	33	2.82	28	41	20	10	17.5	54

SOURCE: Migration survey, Phase 1.

[a]Age and education are computed for the year when migration occurred. Education is for persons 15 years old and above.

[b]Total rural population includes nonmigrants, rural-rural migrants and urban-rural migrants.

urban-rural return migrants have a higher level of education than the rural population, they have only about half the number of years of education as those leaving for town despite the fact that many migrants acquire further education while in town. Return migration is selective of older persons with little education.

Consistent with other migration surveys in Africa, young people dominate in the rural-urban migration stream. Youths aged 15 to 24 years comprise 41 percent of all rural-urban migrants and the mean age is only 17.5 years.

The characteristics of rural-urban and urban-rural migrants are further disaggregated by urban areas in Table 8. Medium size towns which consist of Bo, Kenema and Makeni attract the youngest migrants and migrants with the highest average education. To a large extent this reflects the substantial proportion of scholars migrating to these towns. Freetown also receives migrants with a relatively higher education while migrants to Kono have a significantly lower education reflecting the dominance of self-employment in diamond mining which does not require educational skills.

The larger urban centers attract a higher proportion of males than medium and smaller towns. Nonetheless the statistic of 58 percent male migrants to Freetown or Kono, is not unduly high when compared to statistics from other countries, particularly Kenya where males comprise about 70 percent of the migrants to Nairobi.

In Sierra Leone the education of rural-urban migrants is highly region and sex specific. Table 9 shows that for the southern regions (2, 4, 6, 8) almost three-quarters of male migrants have some secondary schooling while for the northern regions (1, 3, 5, 7) only about one-quarter

TABLE 8
CHARACTERISTICS OF RURAL-URBAN AND URBAN-RURAL MIGRANTS BY URBAN AREA[a]

Migrants	Urban Areas				All Urban Areas
	Freetown	Kono	Medium Towns	Small Towns	
Number years of education					
Rural-urban migrants	2.87	1.76	3.81	2.89	2.82
Urban-rural migrants	1.47	.82	1.58	1.04	1.23
Average age					
Rural-urban migrants	18.1	18.8	15.6	17.4	17.5
Urban-rural migrants	23.9	23.0	23.5	23.7	23.5
Percent male					
Rural-urban migrants	58	58	49	54	54
Urban-rural migrants	55	66	55	50	53

SOURCE: Migration survey, Phase 1.

[a]Age and education are computed for the year migration occurred; education is for persons 15 years old and above.

TABLE 9
EDUCATION OF RURAL-URBAN MIGRANTS BY RURAL ORIGIN AND SEX[a]

Rural Region	Males				Females			
	No Education	Primary	Secondary	Mean	No Education	Primary	Secondary	Mean
	(Percent Distribution)			(Years)	(Percent Distribution)			(Years)
1. Scarcies	74	3	23	1.7	87	4	9	1.3
2. Southern Coast	26	12	62	4.2	46	15	39	2.5
3. Northern Plains	65	10	25	2.3	77	12	11	1.0
4. Riverain Grasslands	18	18	64	4.7	61	19	20	2.0
5. Bolilands	72	2	26	1.9	98	2	0	.3
6. Moa Basin	16	8	76	6.1	60	18	22	2.1
7. Northern Plateau	71	9	20	2.2	84	13	3	.5
8. Southern Plains	12	17	71	6.7	60	20	20	2.6
All rural regions	44	10	46	2.8	70	14	16	1.5

[a]Education of adults 15 years and above.

have secondary schooling. Education of females is much lower but follows a similar regional pattern.

Economic Characteristics

In addition to age, sex and educational characteristics it is instructive to note the occupation of migrants and nonmigrants in the rural population. A higher proportion of rural-rural migrants are in nonfarm occupations such as small industries (tailors, carpenters, blacksmiths), small-scale trading and services and government jobs than is true of nonmigrants or the rural population as a whole (Table 10).[1] This dominance of nonfarm occupation is even more pronounced for urban-rural migrants. Almost 20 percent of urban-rural adult migrants have a nonfarm occupation compared to less than 5 percent for nonmigrants. These results indicate that persons with nonfarm occupations are more mobile perhaps in part due to lack of necessity for land and in part because many serve apprenticeships in town where apprenticeship fees are lower [Liedholm and Chuta, 1976].

An important hypothesis arising from our theoretical schema is that uneducated rural-urban migrants originate in poorer rural households while educated migrants originate in higher income households who have the resources to educate their children. For a subsample of five hundred rural households we obtained accurate data on household income in an associated farm management survey by Spencer and Byerlee [1976]. Rural per capita incomes were computed for adult migrants and nonmigrants in the age category 15 to 35 years in which most migration takes place. The results,

[1] Occupations reported here are the stated primary occupation of rural people. In practice the occupation may change from season to season (see Liedholm and Chuta [1976]).

TABLE 10
OCCUPATIONAL DISTRIBUTION OF MIGRANTS AND NONMIGRANTS TEN YEARS AND OLDER IN THE RURAL POPULATION

Migrant Category	Farmers	Small Industries	Trade Services	Government	Housewives	Scholars	Other[a]	Total
	(Percent Distribution)							
Nonmigrants	71.1	1.8	2.7	.7	14.7	6.1	2.9	100
Rural-rural migrants	66.9	3.7	3.9	2.1	16.7	3.4	3.3	100
Urban-rural migrants	60.9	6.0	7.6	3.7	15.5	5.1	1.2	100
Total rural population	66.7	3.4	4.0	1.6	15.5	5.6	3.2	100

[a]Includes unemployed, Arabic scholars, religious workers, etc.

reported in Table 11 do indeed support our hypothesis since incomes of rural households are significantly lower for households with uneducated male migrants and significantly higher for households with educated male migrants. (Both differences are significant at the 5 percent level.) Educated female migrants also originate in higher income rural households but uneducated females originate in households with average incomes. This is probably in part because (as we show below) most uneducated females migrate for reasons such as marriage rather than to seek a higher paying job. The fact that educated migrants originate in higher income households is strongly underlined by the fact that migrants under 15 years of age sent for schooling in town originated in households with per capita incomes 68 percent above the average.

Differences between migrant and nonmigrant household incomes arise in part out of a tendency for uneducated migrants to originate in somewhat poorer regions and villages and educated migrants to originate in higher income regions and villages. However the differences in household incomes by type of migrant persist even at the village level where households with male uneducated migrants had average incomes 8 percent below average incomes for that village and households with male educated migrants had incomes 6 percent above average incomes for that village. These differences are not large in part because incomes within a village tend to be evenly distributed.[1]

Finally the reasons for migration are shown in Table 12. Although reasons for rural-urban migration will be considered in more detail in

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[1] It is possible that lower per capita household income of households with uneducated migrants is in part the result of the migration since older persons are left behind. This is the subject of ongoing analysis.

TABLE 11
RURAL PER CAPITA INCOMES OF HOUSEHOLDS WITH NONMIGRANTS COMPARED TO HOUSEHOLDS WITH RURAL-URBAN MIGRANTS[a]

Type of Migrant[b]	Male[c]	Female[c]
	(Leones Per Person Per Year)	
1. Nonmigrants	72.8	72.7
2. Uneducated rural-urban migrants	63.1	71.6
3. Educated rural-urban migrants	83.7	85.0

[a]For rural-urban migrants incomes refer to the rural household from which migrants originate. Incomes exclude rural-urban remittances.

[b]Includes only adults aged 15 to 35 years old.

[c]Differences between all male groups and between nonmigrant and educated female migrants are significant at the 5 percent level.

TABLE 12
REASONS GIVEN FOR RURAL-RURAL AND RURAL-URBAN MIGRATION

Migrants	Work	Marry	Schooling	Ward[a]	Other	Total
	(Percent Distribution)					
Rural-rural	25	25	15	25	10	100
Rural-urban	26	20	26	19	9	100

[a]Children sent away for upbringing.

a later section the comparison of reasons for rural-rural and rural-urban migrants shows considerable similarities in both cases. Significantly only about a quarter of migrants leave for work related reasons.[1] Marriage is equally important for rural-rural migrants while schooling is the reason given for over one-quarter of rural-urban migrants. This underscores the limitations of surveys which focus only on male migrants in the labor force.

Rates of Migration

Estimation Procedures

Rates of both rural-urban and rural-rural migration were computed from our demographic survey in rural areas. Persons who had left the area enumerated were identified and the year they departed recorded. Likewise persons residing in the area enumerated at the time of the survey were asked their last place of residence and the years they lived in their present residence. Rates of migration were computed from the number who had moved in and out of the area each year using the last five years as a base. Two deficiencies are inherent in this approach. First even though our total sample included 30,000 persons it was necessary to use the last five years rather than the last year to provide a large enough sample for measuring origin-destination specific migration rates. Hence there is some recall lapse which tends to underestimate in- and out-migration by about 25 percent.[2] It is also possible that the recall lapse is less

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[1] For rural-rural migrants, work related reasons include farming.

[2] Recall lapse was estimated by fitting the function, $m_t = m_o e^{-kt}$ to the cumulative average migration rate where m_t is the migration rate estimated for t, m_o is the migration rate corrected for recall lapse, k is a constant and t is time [Som, 1968].

for certain groups of out-migrants, particularly those who have been successful in town. Second there is likely to be a better reporting of in-migrants who are resident at the time of the survey than out-migrants who are absent.[1] For these reasons the absolute value of both gross and net out-migration are probably underestimated although we believe the relative magnitudes of our estimates are valid.

In estimating migration rates two measures are employed. First the aggregate rate of migration, m^a_{ijk}, is defined as the number of persons in the k^{th} age, sex, education cohort, M_{ijk}, migrating from origin i to destination j per thousand of the rural population N_i in i. That is, $m^a_{ijk} = M_{ijk} \times 1{,}000/N_i$. Second, we computed cohort-specific rates of migration, m^s_{ijk}, by expressing the migration rate as the rate per thousand of that specific age, sex, education cohort in the rural population, where $m^s_{ijk} = M_{ijk} \times 1{,}000/N_{ik}$ and N_{ik} is the number of the k^{th} age, sex, education cohort in the rural population.

These two measures--the aggregate rate and the cohort specific rate--are both useful in analyzing migration streams. Aggregate rates are a measure of the number of persons in a specific cohort migrating while cohort specific migration rates measure the propensity to migrate. For example in a given area the propensity for educated persons to migrate--as measured by the cohort specific rate--may be high but the number of educated persons migrating as measured by the aggregate rate may be low simply because there are very few educated persons in that rural population. It should also be noted that aggregate rates are additive over

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[1] Evidence that this is the case is obtained for rural-rural migrants where the number of rural-rural out-migrants should equal the number of rural-rural in-migrants because we had a nationwide sample. In fact, we found that in-migrants outnumbered out-migrants by about 50 percent.

cohorts (k) and destinations (j) but cohort specific rates are only additive over destinations (j).

Finally we estimated both gross and net migration flows. Aggregate net migration rates were computed from gross rates by the equation $m^{na}_{ijk} = [(M_{ijk} - M_{jik})/N_i] \times 1{,}000$ where M_{ijk} is the number of persons of the k^{th} cohort migrating from i to j and M_{jik} is the number of persons of the k^{th} cohort migrating from j to i. Cohort specific net migration rates were similarly estimated. Gross rates are, of course, a measure of the total movement of people while net migration rates are an indicator of changes in population size and structure.

Rates of Rural-Urban Migration

Gross cohort-specific rates of rural-urban migration measuring the propensity to migrate for twelve age, sex and education cohorts are shown in Table 13. Here migrants are divided into three age groups--15 years and younger, 15 to 34 years and 35 years and older--and two educational levels--the uneducated with less than five years of schooling and the educated with five years or more of schooling. Both age and education have marked effects on the propensity to migrate to urban areas. Consequently the 15 to 34 year age group has the highest propensity and the over 34 year age group the lowest propensity to migrate for both sexes and both educational levels. Likewise the propensity to migrate for educated persons is consistently five to ten times higher than those without education for all ages and sexes. On the other hand, sex has relatively little effect on the propensity to migrate although there is a slight tendency for educated females to have a lower propensity to migrate compared to males in the same age cohort.

TABLE 13
GROSS COHORT SPECIFIC RATES OF RURAL-URBAN MIGRATION BY SEX, EDUCATION AND AGE FOR EIGHT RURAL REGIONS AND FOUR URBAN CENTERS[a]

Rural Regions and Urban Centers	Sex: Male						Female					
	Education: Uneducated			Educated[b]			Uneducated			Educated[b]		
	Age (Years)											
	<15	15-34	>34	<15	15-34	>34	<15	15-34	>34	<15	15-34	>34
By Rural Origin	(Rate Per Thousand)											
1. Scarcies	1.6	15.8	8.8	22.2	145.5	n.a.	11.0	9.4	3.3	100.0	100.0	n.a.
2. Southern Coast	5.1	10.5	1.9	55.6	134.9	16.7	16.1	7.7	2.8	46.2	87.0	n.a.
3. Northern Plains	3.8	37.6	6.5	23.5	248.6	75.0	5.7	14.3	3.2	120.0	428.6	n.a.
4. Riverain Grasslands	6.4	5.2	1.9	54.5	116.3	n.a.	11.9	9.2	2.1	55.6	146.7	n.a.
5. Bolilands	4.7	30.2	4.2	12.1	85.0	44.4	13.2	16.6	4.7	100.0	22.2	n.a.
6. Moa Basin	8.0	12.7	1.3	55.8	170.5	23.1	15.4	11.4	3.3	25.0	98.0	n.a.
7. Northern Plateau	5.8	3.0	3.0	133.3	107.1	50.0	3.9	11.8	3.1	n.a.	72.7	n.a.
8. Southern Plains	10.0	22.7	2.8	33.3	154.1	85.1	14.6	21.8	3.8	61.6	108.8	n.a.
By Urban Center[c]												
Freetown	.7	4.4	1.2	21.7	43.5	20.5	2.1	2.3	1.0	14.0	28.7	n.a.
Kono	1.3	10.5	.9	2.3	23.2	5.6	1.8	5.5	.7	n.a.	18.2	5.7
Medium Towns[d]	2.6	4.5	.3	14.5	46.2	8.2	4.6	3.9	.8	25.4	44.8	11.3
Small Towns	1.9	3.4	1.0	23.7	37.0	10.8	2.4	2.1	.9	9.2	34.3	22.0
All Rural-Urban Migration	6.4	22.9	3.4	62.1	149.9	45.1	10.9	13.7	3.3	49.6	125.9	39.0

[a]Cohort specific rates of rural-urban migration are computed as the number of rural-urban migrants per year of a particular age, sex, education cohort per thousands persons of that cohort in the rural population.

[b]The number of educated migrants in the age category 35 years and above is sometimes too small to estimate a cohort specific migration rate.

[c]Computed from all rural regions weighted by population for each rural region.

[d]Medium size towns are Bo, Kenema and Makeni.

NOTE: n.a. = not available because sample too small for estimation.

Overall there are substantial differences in cohort-specific migration rates by rural region of origin and urban centers of destination. As observed earlier uneducated migrants have a high propensity to migrate to Kono while educated migrants tend toward Freetown and medium size towns.

Aggregate gross rates of migration shown in Table 13 follow a similar pattern to cohort specific rates except that the female uneducated are more important and female educated migrants less important than males becuase females have a much lower level of education. However, aggregate net migration rates also shown in Table 14 reveal several points of interest. First for uneducated migrants of both sexes, net rates for persons 34 years and older are negative indicating that the urban-rural flow exceeds the rural-urban flow. For males this urban-rural flow is so large that the net rate of migration for uneducated males of all ages is negative.[1] For educated persons, however, the net flow is always positive, even for those above 34 years of age. In fact, educated males 15 to 34 years comprise almost exactly half of all net rural-urban migration.

A second interesting finding of Table 14 is that the most important destination in terms of net flows to urban areas is Kono. For example, the net migration rate for all people to Kono is 2.12 compared to 1.45 to Freetown. In fact, using (a) net rates computed here, (b) approximate urban population figures of Table 5, (c) urban natural growth rate of 2.5 percent and (d) allowing for the underestimation bias against out-migration reported previously, we can compute rough population growth rates for Freetown of 4.5 percent; Kono, 9.0 percent; medium towns, 5.1 percent and small

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[1] Bear in mind, however, that we believe our out-migration figures are an underestimate as discussed earlier.

TABLE 14
AGGREGATE GROSS AND NET RATES OF RURAL-URBAN MIGRATION BY SEX, EDUCATION AND AGE FOR FOUR DESTINATION URBAN CENTERS[a]

Urban Centers	Sex												Total Rate All Persons
	Males						Females						
	Education												
	Uneducated			Educated			Uneducated			Educated			
	Age												
	<15	15-34	>34	<15	15-34	>34	<15	15-34	>34	<15	15-34	>34	
	Gross Migration Rates												
Freetown	.13	.49	.15	.09	.77	.09	.39	.41	.13	.04	.17	0	2.88
Kono	.26	1.11	.12	.03	.47	.04	.33	1.04	.09	.01	.15	.01	3.67
Medium Towns	.50	.42	.04	.19	1.17	.07	.82	.71	.12	.13	.43	.02	4.62
Small Towns	.38	.36	.14	.08	.57	.09	.43	.37	.14	.05	.20	.05	2.86
All Urban Centers	1.27	2.38	.45	.40	2.98	.30	1.97	2.52	.48	.23	.96	.07	14.01
	Net Migration Rates[c]												
Freetown	-.08	.27	-.04	.05	.66	.07	.20	.18	-.02	.03	.14	-.01	1.45
Kono	.03	.70	-.22	.02	.40	.02	.17	.80	.03	.01	.13	.01	2.12
Medium Towns[b]	-.12	-.05	-.42	.12	.83	-.04	.31	-.02	-.10	.05	.26	0	.82
Small Towns	-.03	.04	-.20	.06	.46	.06	.05	-.19	-.10	.05	.15	.03	.38
All Urban Centers	-.20	.97	-.88	.24	2.35	.12	.73	.77	-.19	.15	.68	.03	4.77
Total all ages	←	-.13	→	←	2.71	→	←	1.31	→	←	.86	→	4.77
Total all ages and education levels	←	←	2.58	→	→		←	←	2.17	→	→		4.77

[a]Aggregate rates of migration are computed as the number of migrants for a given age, sex and education cohort per thousand total rural population.

[b]Medium towns are Bo, Kenema and Makeni. Small towns have less than 10,000 population.

[c]Net rates of migration are computed by subtracting the rate of urban-rural migration from the rate of rural-urban migration.

towns, 3.5 percent. These growth rates are consistent with estimated growth rates for these centers.

Finally even casual inspection of Table 14 indicates that the difference between net migration and gross migration is largest for uneducated groups and for smaller towns. For example, gross migration is largest for medium size towns but when net rates are computed medium towns receive only a small proportion of the net flow of migrants. In Table 15 a measure of this difference, the ratio of urban-rural migrants to rural-urban migrants is computed. Without exception this ratio is higher for uneducated migrants than educated migrants. This is expected since return migrants are likely to be less educated and move more freely between rural and urban occupations with a relatively low differential in pay. In addition the ratio is highest for small towns and least for large towns. This implies that migration to the large towns of Kono and Freetown is relatively permanent whereas migration to smaller towns is much more circular in nature with more return migration. There is then considerable mobility of rural people, particularly uneducated, to and from small towns usually over short distances.

Rates of Rural-Rural Migration

Gross and net aggregate migration rates for rural-rural migration are reported in Table 16. Again gross migration rates indicate significant flows of migrants for some regions although intraregional flows often dominate. However, when net migration flows are computed the impact on population changes is usually quite small. Regions 2 and 3, the Southern Coast and Northern Plains, are the major out-migration areas while Region 1, the Scarcies Area, is the main recipient. The determinants of the magnitude of these flows will be analyzed later in this report.

TABLE 15
RATIO OF URBAN-RURAL MIGRANTS TO RURAL-URBAN MIGRANTS PER YEAR
FOR ADULTS 15 TO 34 YEARS AGE

Towns	Males		Females	
	Uneducated	Educated	Uneducated	Educated
Large towns: Freetown, Kono	.39	.14	.32	.16
Medium and small towns	1.01	.26	1.19	.35

TABLE 16
RURAL-RURAL MIGRATION--GROSS AND NET AGGREGATE RATES
BY ORIGIN AND DESTINATION REGION

Region	Destination Region								
	Scarcies 1	Southern Coast 2	Northern Plains 3	Riverain Grass-lands 4	Boli-lands 5	Moa Basin 6	Northern Plateau 7	Southern Plains 8	Total Rate All Desti-nations
Gross Migration Rates[a]									
Origin Region									
1. Scarcies	2.5	.2	.3	--	--	--	--	.1	3.1
2. Southern Coast	.6	1.5	.3	3.5	.4	.3	--	6.7	13.3
3. Northern Plains	3.6	.1	1.3	--	.5	.4	.3	.7	6.9
4. Riverain Grasslands	--	1.6	--	1.5	--	1.6	.2	5.2	10.1
5. Bolilands	.3	.4	1.8	--	1.5	--	.4	3.9	4.7
6. Moa Basin	--	--	--	.2	--	3.7	--	.9	4.8
7. Northern Plateau	.1	--	--	--	.1	.2	1.6	.3	2.3
8. Southern Plains	--	--	--	.2	.1	1.7	.3	5.5	8.3
Net Migration Rates[a]									
Origin Region									
1. Scarcies	--	-.1	-4.6	--	-.3	--	-.3	.1	-5.2
2. Southern Coast	.1	--	.1	2.6	-.3	.3	--	5.0	7.8
3. Northern Plains	3.4	--	--	--	-.8	.4	.3	.7	4.0
4. Riverain Grasslands	--	-4.5	--	--	--	-.1	.1	3.9	-.5
5. Bolilands	.3	.2	1.1	--	--	--	.1	.1	1.8
6. Moa Basin	--	-.1	-.2	--	--	--	--	-.3	-.6
7. Northern Plateau	--	.1	--	-.1	--	--	--	.1	.1
8. Southern Plains	--	-1.4	-.5	-.6	--	.4	-.1	--	-2.2

[a]Rate per thousand of origin population.

A final observation is that rural-rural migration is relatively unimportant compared with rural-urban migration. Our data indicate that only about 12,500 persons or 0.5 percent of the rural population change rural residence in a year, compared to some 50,000 or about 2.0 percent of the total population who change residence between rural and urban areas each year.

Summary

The methodology employed in our survey allows a disaggregation of migration streams into various categories--nonmigrants, rural-rural, rural-urban and urban-rural migrants. The finding that rural-urban migrants are young, well educated and with a higher percentage of males is consistent with evidence from other African countries [Rempel, 1971; Caldwell, 1969]. Also the propensity to migrate is several times higher for educated persons and is also higher for young adults 15 to 34 years old--but does not appear to differ by sex. Furthermore in Sierra Leone there is a clear north-south dichotomy with the southern regions producing the bulk of the educated migrants and the northern regions producing most of the uneducated migrants. An important finding was that uneducated male migrants originate in poorer rural households while educated migrants originate in higher income rural households. The necessity of disaggregating migration streams by educational level is clearly demonstrated by these results.

Some important differences were noted between rural-rural and rural-urban migration. Rural-rural migrants do not differ significantly in age, sex and educational characteristics from the rural population as a whole. Moreover in absolute numbers rural-rural migration is much less than rural-urban migration and is largely confined to intraregional migration over short distances.

Our survey provides some of the most detailed information available in Africa on urban-rural migration. About half of urban-rural migrants are migrants returning home. These return migrants are generally older than the rural population as a whole. Return migrants also have a low level of education compared to migrants who leave for urban areas. As a result the net flow of uneducated males to urban areas is negative while educated males comprise about half of net rural-urban flows. Also substantial back and forth mobility exists between rural areas and small and medium urban towns as measured by gross migration rates but migration to the large towns of Kono and Freetown is more permanent with less return migration.

Finally a brief examination of the rural-urban migration streams shows that migrants seeking work, housewives and scholars are about equally important, each group comprising about 25 percent of the total number of rural-urban migrants. These figures underscore the need to disaggregate migration streams and not stereotype all migration as "labor" migration.

THE PROCESS OF RURAL-URBAN MIGRATION

Rural-urban migration will be examined in this section with respect to the sequential processes of (a) decision making in rural areas, (b) moving to town, (c) settling in town and entry into the labor market, (d) maintaining ties with rural areas particularly through remittances and (e) returning home again and re-entry into rural society.

Migration Decision Making in Rural Areas

Our survey revealed two aspects of rural-urban migration that were important in migration decision making in Sierra Leone. First only a minority of rural-urban migrants initially leave home to obtain work. Migration for marriage and schooling are equally important as migration for finding work. Secondly migrants leave home at a relatively young age. In our sample, male migrants without education left home at an average age of 18 years and educated migrants left at the age of 12 years. As a result the decision to migrate is more often made by persons other than the migrant--usually the head of the household--as seen in Table 17. Even for migrants seeking to work in town almost half the decisions were made by a parent at home or a relative in town.

Almost all educated migrants initially moved to an urban area to attend school. Typically an educated migrant had attended school for 11 years of which 5 years were at home and 6 years were in an urban area. Ninety percent of all migrants with education had attended a school in an urban area. Of these who had completed school in town, only 27 percent were working in the same town in which they attended school indicating substantial mobility among educated persons.

TABLE 17
PERSONS IDENTIFIED AS DECISION MAKER FOR MIGRANTS BY TYPE OF MIGRANT AND AGE AT MIGRATION

	Decision Maker					
	Migrant	Rural Household Head	Other Rural Relative	Town Relative	Spouse	Total
	(Percent Distribution)					
Type of Migrant						
1. Working	32	40	16	7	5	100
2. Housewife	4	44	17	5	30	100
3. Scholar	6	61	14	17	2	100
Age at Migration						
1. Below 15 years	10	58	14	12	6	100
2. 15-24 years	40	30	17	7	6	100
3. Over 24 years	66	6	15	2	11	100

Since the household head was largely responsible for the decision to send children to school in town we asked why they had chosen a school in town rather than a rural school. Fifty-six percent made this decision because there was a relative or friend in town who could help pay fees. Thirty percent claimed that urban schools were better while 11 percent responded that there was no school in the vicinity of their villages.

Most women gave marriage as the reason for their migration. In 20 percent of the cases the woman accompanied her husband who was moving to town. Another 20 percent moved to town seeking a husband while most moved to town to marry a man already in town.

Migrants who left home to seek work were primarily interested in obtaining a higher paying job than farming, although a more interesting job and improved social life were also mentioned. Eighty percent of uneducated migrants and 93 percent of educated migrants in town felt they were earning more than was possible at home. Similar beliefs were expressed by nonmigrants in rural areas although only 60 percent of nonmigrants believed that a city job would pay more.

Migrants, however, are aware of the difficulty of obtaining a job before they leave rural areas. Among nonmigrants who were intending to migrate only 15 percent with no education were certain they would obtain a job. Those with education were more confident with 40 percent certain they would obtain a job.

Job information is provided by relatives and friends in town for two-thirds of all migrants while visits to town and friends and relatives at home provide information to others. An effort was made to measure the quality of this information by asking a comparable group of urban migrants and rural nonmigrants the earnings of four occupations--government

clerk, policeman, medical doctor and driver. Results shown in Table 18 show that there is no consistent evidence that rural potential migrants lack information about urban occupations. In fact, the difference between perceived incomes and the actual incomes of migrants in town with that occupation, is negligible except for a government clerk which nonmigrants ranked much higher and which is the only occupation to show a statistically significant difference between rural and urban persons. It is apparent, however, that the variance of the estimates of rural persons was higher than urban migrants indicating that rural people as a whole do not have unduly high perceptions of urban earnings although there is wide variation in these perceptions.

Further evidence of rural perceptions is provided by an interview with young adult male nonmigrants in rural areas--the group with the highest propensity to migrate. Each person was asked to state his future migration intentions and to estimate his earnings if he were to move to town. The comparison of perceived earnings of nonmigrants disaggregated by migration intentions with actual earnings of migrants already in town is shown in Table 19. For both levels of education, intending migrants had higher perceptions of urban earnings than nonintending migrants with this difference being larger for educated persons. Furthermore intending migrants in both cases had perceived earnings higher than migrants in town were actually receiving. There is therefore some evidence that migrants who leave home have somewhat higher perceptions of urban earnings than are realistic.

Finally among young male rural residents who had no intention of migrating we found that most had some contacts in town, had in fact visited town and most believed that their earnings could be increased by

TABLE 18
COMPARISON OF INCOMES ESTIMATED BY RURAL NONMIGRANTS AND URBAN MIGRANTS FOR FOUR OCCUPATIONS AND ACTUAL INCOMES FOR MIGRANTS WITH THOSE OCCUPATIONS

Occupation	Income Estimated for That Occupation[a]				Actual Income of Migrants with That Occupation	
	Rural Nonmigrants		Urban Migrants			
	Mean[b] (Le./Mo.)	S.D.	Mean (Le./Mo.)	S.D.	Mean (Le./Mo.)	S.D.
Doctor	242	80	240	78	n.a.	n.a.
Clerk	85	62	51	20	4	13
Policeman	61	32	56	19	58	15
Driver	41	20	42	34	40	8

NOTE: n.a. - not available.

[a]Differences between rural nonmigrants and urban migrants are not statistically significant at the 5 percent level except for clerks.

[b]Le 1.00 = $1.10.

TABLE 19
PERCEIVED WAGE RATE OF RURAL NONMIGRANTS BY MIGRATION INTENTIONS AND EDUCATION[a]

Education	Percent Intending to Migrate	Perceived Wage Rates[b]		Actual Wage of Urban Migrants with Same Age and Education
		Intending to Migrate	Not Intending to Migrate	
		(Le./Month)	(Le./Month)	(Le./Month)
Uneducated	32	47	42	32
Educated	63	67	44	55
Mean	38	52	42	36

[a]Sample includes only adult males, 15 years to 30 years of age.

[b]Difference between perceived wage rates of intending and not intending migrants significant at 5 percent level for educated migrants.

migrating. We, therefore, asked these nonmigrants why they did not intend to move to town. The most important reason given was the need to support parents and family, suggesting that factors such as kinship ties are important in the decision not to migrate.

Moving to Town

As Sierra Leone is a small country most rural-urban migration covers a relatively short distance averaging only about one hundred miles. Because of this short distance and because over two-thirds move without dependents the average cost of moving to town is only Le 2.30 and the cost is nearly always less than Le 10.

There is considerable mobility of migrants after leaving home. The average migrant resided in two other locations for six months or more before arriving at his present destination, one of which was an urban location. Educated migrants exhibit more mobility so that by the age of twenty-five they have lived in, on an average, two other urban centers besides their present urban residence.

Settling in Town

Our survey showed that the prior presence of relatives and friends in town is almost essential to a migrant's successful adjustment to town life. Almost 90 percent of migrants were initially supported by relatives and friends in town. The remainder either obtained a job immediately or had some initial savings for support. On the average a migrant was supported through food, lodgings and sometimes money for one and a half years on arriving in town. Nearly all of this support was provided by urban relatives, most of whom are themselves migrants of an earlier period.

Only apprentices received significant support from other than relatives--in this case their instructor.

The importance of this support of new migrants underscores the substantial intra-urban income transfers among migrants. In an effort to learn who was giving and receiving support we asked each migrant to value the food, lodging and cash gifts he gave or received to or from an adult who was not a parent or spouse or child of the migrant.

The results reported in Table 20 show a clear division between working migrants who are providing support and nonworking migrants including scholars and the unemployed, who are receiving support. Working migrants on an average "transfer" Le 9.50 or about 17 percent of their income to support relatives and friends in town. The amount transferred increases absolutely (but not proportionally) with the income of the migrant so that the top 5 percent in the income distribution support up to three persons at a value of Le 30 per month.

Those who received support are predominantly scholars, apprentices and the unemployed. Scholars receive support of about Le 16 per month which is higher than other groups because of the cost of school fees and books. Significantly migrants as a whole have a net intra-urban income transfer of almost zero indicating that migrants as a group do not depend on urban nonmigrants for support.

New migrants seeking a job require support during the period of job search. Migrants who are currently employed on an average reported a ten month period to obtain their first job. However, many migrants, particularly those in the lowest income group, continue to receive some support for some time after obtaining a job. Furthermore the importance

TABLE 20
SUPPORT IN TOWN, RURAL-URBAN REMITTANCES AND PROPERTY OWNERSHIP FOR WORKING MIGRANTS BY INCOME GROUP AND FOR NONWORKING MIGRANTS

	Working						Not Working					All Migrants
	Income (Le./Month)[a]					All Income Groups	Unemployed	Housewives	Scholars	Apprentices	Other	
	<32	32-50	50-90	90-150	150+							
Support in Town												
Value given (Le./month)	7.2	10.8	18.1	24.2	30.6	12.9	3.6	2.8	.7	.5	2.9	7.0
Value received (Le./month)	4.5	3.3	4.0	--	--	3.4	12.4	2.5	16.4	16.7	4.9	6.2
Net value given (Le./month)	2.7	7.5	12.1	24.2	30.6	9.5	-8.8	.3	-15.7	-16.2	-2.0	-.8
Percent giving	41	48	64	77	70	55	20	17	--	--	20	28
Percent receiving	29	21	16	--	--	20	55	18	80	82	30	37
Rural-Urban Remittances												
Value given (Le./month)	1.6	2.8	3.0	6.1	12.0	3.1	.5	.8	.2	.1	.8	1.5
Value received (Le./month)	.7	1.0	1.3	2.3	1.9	1.9	1.0	.9	1.4	.5	1.2	1.1
Net value given (Le./month)	.9	1.8	1.7	3.8	10.1	1.2	-.5	-.1	-1.2	-.4	-.4	.4
Percent giving	77	80	86	100	90	82	44	62	23	41	42	57
Percent receiving	56	69	63	--	50	66	63	63	73	41	52	64
Property at Home												
Percent males owning property	36	43	46	46	60	45	27	n.a.	23	29	39	30
Property income (Le./Mo.)	.4	1.3	3.7	3.1	33.3	3.8	.6	--	--	1.2	4.5	2.9

[a]Migrants' incomes are distributed as follows: 25 percent less than 32 Le./month, 50 percent less than 50 Le./month, 90 percent less than 90 Le./month and 95 percent less than 150 Le./month.

of relatives and friends is again underscored by the fact that two-thirds of working migrants obtained their first job through a relative or friend.

Rural-Urban Remittances and Contacts

The remittances of income by urban migrants to rural areas has been widely noted (but rarely measured) in Africa. Our survey shows that remittances follow a similar pattern to intra-urban income transfers in the form of support (Table 20). The working population remits about Le 3.10 (about 5 percent of their earnings) to rural areas each month. However this same group receives Le 1.90 per month so that the net transfer to rural areas is only Le 1.20 per month. Both gross and net urban-rural remittances increase with urban incomes. Urban-rural remittances are largely cash with some imported items such as clothing, while rural-urban remittances are largely food.

Among the nonworking urban migrants, there is a net transfer from rural to urban areas. These transfers are largest for scholars and the unemployed where they could be considered a form of support by rural people of their relatives in town. However this form of support to scholars and the unemployed is almost negligible compared to support received from relatives in town.

When all working and nonworking migrants are considered together there is still a small net transfer of income to rural areas of about 40 cents per month or Le 5.00 per year. In our interviews with rural households we obtained a figure of net remittances received of Le 2.00 per year. The difference in these two figures suggests that migrants

send money to more than one rural household.[1] Most cash remittances received by rural households were used for consumption purposes although about one-third was used for hiring labor and small amounts for equipment, school fees and medical expenses.

In addition to remittances, migrants also maintained contacts with their home area in other ways. Visits home for vacation and special purposes were frequent and averaged about one visit per year among our sample. Significantly too, migrants tended to acquire property at home--more so than in the town in which they lived. About half of all working migrants owned property in their village, such as land, tree crops and houses (Table 20). They also received small incomes from ownership of that property, particularly migrants in the highest income group. In addition over 90 percent of all migrants in town stated that they had access to land in their village so that acquiring land is not an obstacle to migrants returning home.

Return Migration

The importance of return migration was noted in the previous section. When we asked urban migrants about their intentions to return home about 65 percent stated they planned to return home although few were very definite about when they would do so. The intentions to return home were strongest among uneducated migrants and older migrants. For example, only 54 percent of youths 15 to 25 with secondary schooling planned to return while 86 percent of migrants above 45 without education planned to return.

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[1] It is also likely that some of the difference is due to rural persons understating their receipts and urban migrants overstating their gifts.

Three primary reasons were given by urban migrants for planning to return home. First, about one-third wished to retire in their home village. Second, another third wished to return for economic reasons believing that farming was at least as profitable as their urban job. Finally about one-quarter felt that they may not receive support in town in the long run and would return. When return migrants were interviewed in rural areas over half gave reasons relating to problems in obtaining a job or support from urban relatives suggesting that economic hardship is more important than retirement as a motive for return migration. In fact, 25 percent of return migrants who sought jobs were unsuccessful and returned without working in town.

As noted earlier, return migrants are older and with lower education than those who leave for urban areas. On an average our return migrants had spent fourteen years in town and had typically left at the age of 18 years and returned at the age of 33 years.

Return migrants are of potential significance to rural communities if they bring money or new ideas acquired in town to that community. However, our interviews with return migrants would indicate that this role is relatively minor. Only 20 percent of return migrants had made investments in property while in town compared to a third of migrants who were currently residing in town who had made investments in property. On returning home most brought cash averaging about Le 32 for each return migrant of which about Le 8 was spent in farming and the remainder consumed. Some 13 percent of migrants had undergone an apprenticeship reflecting the fact that many of the skills for small rural industries--tailoring, carpentry and blacksmithing--are acquired in urban areas [Liedholm and Chuta, 1976]. Another 10 percent had acquired some educa-

tion in town but as noted previously most educated persons do not return to rural areas. Finally almost one-third of return migrants felt that they had not benefitted in any way from their stay in town.

Attitudinal Characteristics of Migrants

Throughout our interviews with various categories of migrants we tried to gain a perspective on attitudes toward rural and urban residences. Here we briefly note some of the attitudinal characteristics toward social amenities that may have a bearing on the migration decision. Both migrants and nonmigrants attached considerable importance to social amenities such as school, medical facilities and utilities in town. About 40 percent of the urban households but none of the rural households in our sample had electricity and piped water. Both rural and urban respondents cited these as important advantages of urban residence. Likewise educational facilities in towns were considered advantages and both rural and urban respondents felt that rural schools even when available provided less opportunity for a good education.

When urgan migrants were asked to list disadvantages of urban living the overwhelming response was the high cost of living in urban areas. Of course, this was to some extent expected since it was a period of rapid price inflation. However, among rural persons who were intending to migrate, 40 percent could not think of any disadvantages of urban living suggesting that their attitudes are changed by the experience of living in town.

Summary

In examining the process of rural-urban migration in this section, we have highlighted migration decision making, urban support and rural-urban contacts through remittances and return migration. Because most migrants leave home at a very early age decision making by parents or other members of the rural household is more important than by the migrants themselves. This underscores the need to conduct rural-urban migration surveys in rural areas.

Through interviews with potential migrants in rural areas we obtained information on rural perceptions of urban opportunities--a deficiency of most earlier migration research in Africa. Rural nonmigrants do not appear to have unduly high perceptions of urban wages or job opportunities. However, perceptions do vary quite widely with individuals and it was shown that rural people intending to migrate have higher income expectations than nonintending migrants. These income expectations of intending migrants are also higher than actually realized by urban migrants in town suggesting that high income expectations do play some role in the decision to migrate.

A particularly important part of the migration process is the support given by friends and relatives in town. It was shown that working migrants are transferring about 17 percent of their earnings to support nonworking scholars and the unemployed. This intra-urban transfer of income enables migrants to acquire an education or undergo an average of one year's job search. Significantly migrants as a group seem to be "self-sufficient" and do not depend on urban nonmigrants or rural households for support. In addition relatives and friends are important in helping new migrants obtain a job.

The importance of intra-urban income transfers is in contrast to the relatively small rural-urban remittances observed in our sample. Whereas Johnson and Whitelaw [1974] observe in Kenya that 20 percent of urban wages are remitted to rural areas the comparable figure for Sierra Leone for working migrants is only 5.5 percent or Le 3 per month. Net urban-rural remittances are a good deal smaller--about Le 5 per year--since rural people also send remittances to urban areas and in the case of nonworking scholars and the unemployed, these remittances exceed urban-rural remittances. The most likely explanation for this difference between Kenya and Sierra Leone is the practice in Kenya of maintaining a wife and family in rural areas.

We conclude then that intra-urban income transfers are much more important than urban-rural income transfers in migration in Sierra Leone. This evidence does not support Lipton's [1976] thesis discussed earlier that migrants originate in higher income rural households who support their job search and who after the migrant is employed receive substantial remittances further increasing rural income inequalities.

Finally return migration is numerically important and also contributes some skills, particularly in small-scale industry, to rural communities. However, migrants largely return for reasons of economic hardship and therefore contribute little capital to rural areas. The relatively easy access to land enjoyed by migrants even when away in town probably in large part explains the substantial back and forth migration between rural and urban areas existing in Sierra Leone.

RURAL-URBAN MIGRATION, THE URBAN LABOR MARKET AND URBAN UNEMPLOYMENT

Method of Analysis

An important aspect of migration to urban areas is the participation and remuneration of migrants in the urban labor market. In this section adult migrants 15 years and older are analyzed with respect to (a) participation in the labor force (i.e., those working or seeking work), (b) employment structure, (c) earnings and (d) unemployment. In this analysis the effects of migrants' sex, age, town of residence, education and employer are considered. Because the sample is relatively small, various aggregations are used in this analysis. Two basic age groups are used--those between 15 and 24 and those 25 years or older. Towns are aggregated into four size categories as in earlier sections. With respect to education, migrants were classified as educated if they had completed more than four years of formal education and the remainder were treated as uneducated.[1] Finally the migrant's employer was disaggregated by large-scale and small-scale sectors where small-scale sectors consist of firms employing less than ten persons. Large-scale sectors are further disaggregated into the government sector, including public corporations and semi-government agencies, and large private industrial and commercial firms. Migrants employed in small-scale sectors are further disaggregated by wage earners and self-employed.

In interpreting the results, particular caution must be exercised for female migrants since the sample size is quite small as a result of

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[1] In fact the educated male migrants in our sample are overwhelmingly secondary school-leavers since in Sierra Leone a very high proportion of male scholars who complete primary school enter (but do not necessarily complete) secondary school.

(a) the dominance of males in rural-urban migration and (b) the low female participation in the urban labor force. However, because statistical techniques do point up significant sex differences some results are reported for female migrants.

Labor Force Participation

Labor force participation rates for eight age, sex and education cohorts are given in Table 21. Seventy-five percent of adult male migrants are in the labor force. The remaining one-quarter are largely in the 15 to 25 year age category where 56 percent of educated migrants are still attending school or in the case of uneducated migrants 23 percent are acquiring skills through apprenticeship.

Among female migrants, however, only a quarter are in the labor force. This proportion rises with both age and education but still remains substantially lower than for males. These low participation rates are in contrast to the important contribution of women in rural occupations, particularly farming [Spencer, 1976]. Moreover as a result of the substantial number of scholars and housewives not in the labor force overall labor force participation rates for urban households are lower than rural households and hence earnings for those who work will have to be higher to offset the reduced number of workers.

Structure of Employment

The government is the dominant employer of migrants in our sample, employing half of all migrants who currently hold a job (Table 22). Self-employment in the small-scale sectors is also important. In contrast wage employment in both small and large private firms together accounts for only 20 percent of total employment.

TABLE 21
LABOR FORCE PARTICIPATION OF ADULT MIGRANTS BY SEX, EDUCATION AND AGE

(Percent)

Labor Force	Sex									
	Males					Females				
	Education				All Males	Education				All Females
	Uneducated		Educated			Uneducated		Educated		
	Age					Age				
	15-24	25+	15-24	25+		15-24	25+	15-24	25+	
Wage employed	33	54	25	85	51	--	2	11	33	6
Self-employed	16	29	2	5	13	13	21	2	19	14
Unemployed	19	10	14	6	11	4	5	6	--	5
Total in the labor force	68	93	41	96	75	17	28	19	52	25
Housewives	--	--	--	--	--	78	65	35	33	59
Scholars	--	--	56	1	20	--	--	45	--	12
Apprentices	23	2	2	1	3	1	--	--	--	--
Others	9	5	--	2	2	4	6	1	14	4
Total not in the labor force	32	7	58	4	25	83	71	81	47	75
Total	100	100	100	100	100	100	100	100	100	100

TABLE 22
PERCENTAGE EMPLOYED IN LARGE-SCALE AND SMALL-SCALE SECTORS BY SEX AND EDUCATION AND BY URBAN AREA

(Percent)

	By Sex and Education						By Urban Area				All Employed Migrants
	Males			Females							
	Uneducated	Educated	All Males	Uneducated	Educated	All Females	Freetown	Kono	Medium Towns	Small Towns	
Government sector[a]	40	73	57	7	48	20	63	13	55	64	52
Large private firms	9	16	13	0	14	5	12	27	6	9	12
Total large-scale sector	49	89	70	7	62	25	75	40	61	73	63
Small-scale wage employed	14	4	9	0	10	3	7	10	9	0	8
Small-scale self-employed	37	7	21	93	29	72	18	51	30	27	28
Total small-scale sectors	51	11	30	93	39	75	25	60	39	27	36
Total	100	100	100	100	100	100	100	100	100	100	100

[a]Includes local government.

The division of employment between small and large-scale sectors differs significantly with education and sex. Over half of the employed male migrants without education are employed in small-scale sectors but almost all educated migrants are employed in large-scale sectors. Female migrants with and without education have a stronger tendency than males to be self-employed in small-scale sectors. This reflects to a large extent the dominance of women in food trading activities.

The structure of employment is quite uniform across urban centers with the exception of Kono where diamond mining increases the share of both large private firms, in this case the National Diamond Mining Company, and small-scale self-employment comprised of diamond diggers.

Structure of Urban Earnings

The structure of earnings of urban migrants is important in determining migration flows but at the same time serious problems occur in the estimation of earnings. Earnings in large-scale sectors are generally easiest to determine. However, fringe benefits such as housing and allowances can be quite important. In our survey these extra benefits were estimated and added to reported income. For migrants self-employed in small-scale sectors two methods were used to estimate incomes. First the migrant was asked to state his earnings in a normal month after subtracting all his business costs except his labor. Second, for the week prior to the interview migrants were asked to recall their transactions. For small-scale industries repondents were asked to recall all cash transactions for purchased inputs and sales. For traders we recorded wholesale purchases of commodities, the time to sell their stock and their buying and selling prices. An estimate of income for the previous week could

then be computed. In most cases, this second measure was used but where this was unsatisfactory because of missing information or because the previous week's activity was abnormal, the first measure (i.e., the stated income) was employed. Finally a high proportion of migrants in Kono were diamond diggers whose incomes are particularly difficult to measure--in part because of the illegal nature of much mining. Interpretation of their incomes must therefore be treated cautiously.

Analysis of variance procedures were used to analyze the effects of age, sex, education, employer, rural origin and urban centers on earnings of urban migrants. Results of this analysis are shown in table 23 where the independent effects of sex, age, education, employer and location are reported relative to the average income of all migrants. This analysis demonstrates a wide gap between male and female incomes even when allowance is made for the different education and employment status of females.[1] This parallels a similar observation that female wage rates are lower than male wage rates in rural areas [Spencer and Byerlee, 1976]. However when self-employed persons are excluded from this analysis, sex is no longer statistically significant. This can be explained by the fact that many women are engaged in self-employed trading activities on a part-time basis and receive very low monthly earnings.

Age is also a significant determinant of urban earnings. This is expected as migrants acquire more skills and capital the longer they stay on the job. Education has generally the largest effect on urban earnings. A person with five or more years of education can expect to earn about 50 percent more than his uneducated counterpart.

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[1] In the case of self-employed traders and artisans, earnings include returns to capital.

TABLE 23
ANALYSIS OF VARIANCE OF EFFECTS OF SEX, AGE, EDUCATION, EMPLOYER AND URBAN AREA ON EARNINGS

Effect Due To:	Percentage Change from Mean Income[a]	Significance Level
1. Sex		
Male	9	{ .001
Female	-55	
2. Age		
15-24 Years	-30	{ .005
25 Years and Above	7	
3. Education		
Less Than 5 Years	-24	{ .001
Five Years and More	19	
4. Employer		
Government	-11	
Large Private Firms	21	{ .015
Small Private Firms	-31	
Self-Employed	32	
5. Urban Center		
Freetown	7.5	
Kono	8.6	{ .292
Medium	-13.8	
Towns	-15.1	

[a]Mean income of all migrants = Le 56.37.

Even after allowing for age, sex and education the type of employer has a significant effect on migrants' earnings. In particular for wage earners, large-scale private firms pay the highest wage--substantially higher than the government. At the same time small-scale sectors pay a wage significantly lower than the government. This is evidence of a dual labor market with small-scale sectors paying a competitive wage below the government and large-scale wage structure.

Self-employed workers in the small-scale sectors in our sample received earnings above other sectors for two reasons. First, their earnings include returns to capital as well as labor which in the case of traders and small-scale industries are an important component of earnings. Second this self-employed category includes diamond diggers in Kono who sometimes have high incomes. It should also be noted that earnings for the self-employed had the highest variance reflecting the heterogeneity of composition of this category.

The size of the urban center had some effect on the earnings of migrants with earnings in large towns being above earnings in small towns. However neither the magnitude nor significance of this effect is as large as for other variables such as age and education. Only when the effect of employer is omitted from the analysis does urban location become significant. That is, earnings differences between location are largely due to the differential structure of employment rather than wage differences per se.

The above analysis treating each effect separately is only relevant if higher order interactions are not important. For example, it

could be hypothesized that there is interaction between age and education with education having a larger effect with age. In fact all two-way interactions were not statistically significant and the only interaction that was not negligible was between education and urban size.[1] This reflects the fact that educated migrants to Kono received a very small differential in earnings as a result of education.

Rural-Urban Earnings Differentials

The difficulties of comparing rural and urban earnings are well recognized [Knight, 1972; Collier, 1976]. In comparing rural and urban incomes here we compare directly the actual wage rate per hour worked in rural and urban areas. Rural wage rates were derived from the daily wage observations from a farm management survey reported in Spencer and Byerlee [1976] where all payments in kind were converted to monetary values and the wage per hour computed from the observation of the number of hours worked. Urban wage rates were computed from the migration survey using the hours worked in the week preceding the interviews.

Comparison of these wage rates is given in Table 24. Wage rates for uneducated migrants in urban sectors are on the average about Le 0.25 per hour or about three times higher than the wage rates of Le .08 per hour in rural areas. The lowest paying urban sector--the small-scale sector--has wages above the average rural wage rate but only slightly above the rural wage rate in the region with the highest wage rate (i.e., the Scarcies region). In all cases, of course, educated migrants have a wage rate higher than uneducated migrants.

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[1] Significant only at the 27 percent level.

TABLE 24
COMPARISON OF RURAL AND URBAN WAGE RATES

Rural Areas		Urban Areas		
Region	Wage (Le./Hr.)	Employer	No Education (Le./Hr.)	Educated (Le./Hr.)
1. Scarcies	.13	Government	.19	.35
2. Southern coast	.08	Private large-scale sector	.38	.37
3. Northern plains	.07	Small-scale sector	.15	.21
4. Riverain	.08	Average urban wage[a]	.25	.35
5. Bolilands	.07	Expected wage of youth 15 to 24 given probability of unemployment[b]	.11	.18
6. Moa basin	.08			
7. Northern plateau	.08			
8. Southern plains	.11			
Average rural wage	.08			

[a] Average over all employers and all age cohorts.

[b] Average wage for youths 15 to 24 years of age multiplied by probability of employment for that age and education group.

A more relevant measure of urban wages is the expected wage of young male migrants between 15 and 24 years taking into account the probability that they will be unemployed. That is, the expected wage is computed as $W_k^e = (1-U_k)W_k$ where U_k and W_k are the unemployment rate and average wage respectively for young male migrants. The wage rate was computed as the average for all migrants in both small and large-scale sectors while unemployment rates were derived from data presented in the next section. The expected wage for uneducated migrants is only marginally higher than the average rural wage rate and lower than or equal to the wage rate in two rural regions. Educated migrants still maintain a considerable wage differential over all rural regions.

These results suggest that over the long term a migrant in an urban job can earn a considerably higher wage rate in urban areas compared to rural areas. However in the short term given the lower wage rates and the high unemployment rates, young uneducated migrants stand to gain little.

These results must be qualified by at least two factors. First there is a cost of living differential between rural and urban areas partly because the basic consumption item is food which includes a marketing margin in urban areas. Secondly, the wage rate is not necessarily the best measure for comparison since urban persons work a larger number of hours per year than rural persons due to the agricultural slack season. Thus Spencer and Byerlee [1976] find that rural men work about 1,400 hours per year compared to urban migrants in our sample who worked over 2,000 hours per year. Migrants may move to urban areas not only for a higher wage but also to have the opportunity to work longer hours than is possible in rural areas.

Urban Unemployment

The relationship between unemployment and migration is important both because unemployment is a central variable of the well-known Todaro model of migration and its derivatives and because urban unemployment is aggravated by the influx of new migrants. In this section we briefly examine urban unemployment rates, draw a profile of the unemployed migrant and his job search and examine his attitudes and expectations with respect to obtaining a job.

The Rate of Urban Unemployment

The overall rate of male unemployment of migrants in our sample was 14.7 percent (see Table 25) which is slightly higher, but very comparable to the 13.9 percent figure for all urban residents which can be derived from the household surveys of the Central Statistics Office [1967-1971].[1] However, when migrants are disaggregated by age and education in Table 25 it is found that this unemployment rate rises to 33 percent for young migrants in the 15 to 24 years age group. In fact, the marked difference between age groups is common to both educated and uneducated migrants. For the young age group the educated migrants have a higher unemployment rate but not significantly so.

The Central Statistics Office surveys provide only a breakdown by age and by education separately but even these estimates shown in Table 25 are surprisingly consistent with our survey--despite our relatively small sample size. One implication of this consistency is that the

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[1] Our sample shows the rate of female unemployment is 20 percent--somewhat higher than males. However, the number of females in the labor force is too small to make a further disaggregation of female unemployment.

TABLE 25
RATES OF URBAN UNEMPLOYMENT BY AGE AND EDUCATION
FOR MALE MIGRANTS COMPARED TO UNEMPLOYMENT
AMONGST ALL URBAN RESIDENTS

	Age (Years)		Average: Migrants[a]	Average: All Urban Persons[b]
	15-24	25+		
	(Percent Unemployed)			
Education				
Uneducated	28	11	13.0	13.0
Educated	34	6	16.0	18.0
Average: Migrants[b]	33	9	14.7	--
Average: All urban persons[a]	30	9	--	13.9

[a]Source: Migration Survey.

[b]Source: Central Office of Statistics [1967-1971].

unemployment rates of migrants are similar to the urban population as a whole although there may be some initial adjustments. Thus for Freetown the Central Statistics survey computed a rate of unemployment of migrants in the first year of residence in Freetown of 19.6 percent compared to 17.3 percent for our survey of migrants (of whom a third are new migrants) and 15.5 percent for all urban residents.

The unemployment rate also varies substantially with urban areas. The largest urban areas tend to have the largest unemployment rate as shown in Table 26. In absolute numbers half of all unemployed persons reside in Freetown.

Profile of the Urban Unemployed

Although the rate of unemployment in our sample differs more with age than with education, since most young urban migrants are also educated the dominant group numerically in our sample are young, educated males who make up 44 percent of the unemployed. Older male adults with no education constitute another 29 percent of the unemployed. In Freetown a special interview was conducted with each unemployed migrant to determine his length of unemployment, job search activities, etc., as well as his attitudes and expectations. Although this sample is quite small (forty) some important attributes of these unemployed migrants emerge. These are reported in Table 27 disaggregated by education.

Contrary to the image that unemployed migrants are new arrivals in town, only one-third of our unemployment sample were new migrants in town. However, among educated migrants 83 percent were seeking their first job--that is they were "school-leavers". Over half of these school-leavers had attended school in Freetown and therefore were not new migrants.

TABLE 26
UNEMPLOYMENT BY URBAN CENTER

	Population				
	275,000	110,000	20,000-100,000	2,000-20,000	All Towns
	Freetown	Kono	Medium Towns	Small Towns	
Percent unemployed--migrants[a]	17.3	16.8	12.3	10.3	14.7
Percent unemployed--all residents[b]	15.5	11.6	12.2	n.a.	13.9

NOTE: n.a. = not available.

[a]SOURCE: Migration survey.

[b]SOURCE: Central Office of Statistics [1967-1970].

TABLE 27
PROFILE OF URBAN UNEMPLOYED IN FREETOWN BY EDUCATION

	Education		All Unemployed
	Uneducated	Educated	
Employment and Job Search			
Percent new migrants	29	36	32
Percent seeking first job	36	83	62
Years unemployed	1.0	1.1	1.1
Percent registered employment exchange	13	50	38
Percent seeking casual work	18	19	19
Number of job applications per month	.6	1.6	1.2
Job search expenses per week (Leone)	.92	1.14	1.04
Income[a]			
Current household income (Leone per month)	25	62	45
Attitudes and Expectations			
Expected wage (Leone per month)	39	49	--
Actual wage for employed migrants of comparable age and education	38	44	--
Minimum acceptable wage (Leone per month)	35	39	--
Percent more than half certain of job	55	85	71
Percent risk takers[b]	21	44	36
Years unemployed--risk takers	.3	.5	.4
Years unemployed--risk neutral	.5	--	.5
Years unemployed--risk averters	1.3	1.6	1.5

[a] Total income of all working household members.

[b] Risk attitudes measured by choice between secure job and uncertain job with same expected earnings.

Thus the most important group of unemployed are the young school-leavers who had not worked before.

Both educated and uneducated unemployed migrants had on the average been unemployed for about one year. This compares with nine years for the average time period for an employed migrant to obtain a job. A few migrants, however, reported being unemployed for up to five years.

The survey of unemployed migrants revealed that they were in general quite active in searching for a job. Most reported undertaking job search activities, such as inquiry, request through relatives, applications, etc., several times per week. In all, the costs of this activity in transport, influence, etc., are not insignificant amounting to about one leone per week. Very few unemployed migrants reported to be seeking or doing casual work. Most felt that their chances of obtaining casual labor on a daily basis were too small. Significantly, less than half of our sample--particularly uneducated migrants--were currently registered with the employment exchange. This suggests that the use of registered unemployed figures from the employment exchange to measure unemployment is quite unreliable. The correspondence obtained by Levi [1973] between the number registered as unemployed and the number of unemployed derived from surveys is possibly in part due to employed persons seeking to change jobs through the exchange.

Finally there is a very pronounced difference between the educated and uneducated with respect to the income of the households in which the unemployed reside. Given that the average household income in Freetown is about Le 50 per month[1] [Central Statistics Office, 1967], the estimates from our survey show that the educated migrants reside in households

[1]Average household income of Le 45 in 1967 adjusted for 11 percent wage increases.

with above average incomes of Le 62 per month. The uneducated on the other hand live in quite poor households earning an average of only Le 25 per month.[1] This difference is due in large part to the fact that the educated unemployed are supported in households by other educated migrants working at a relatively high pay.

Attitudes and Expectations of the Unemployed Migrants

The unemployed migrants were asked various questions about their expectations concerning a job. The expected wage of the job they were seeking was slightly higher than the average wage of working migrants in Freetown in a comparable age and education category (Table 27). However, all migrants were willing to accept a job with an income below that average. Thus, the unemployed would seem to be quite well informed about the urban labor market. Educated migrants seemed more confident that they could obtain a job with 85 percent reporting that they were certain or fairly certain of obtaining the job they were seeking.

An experimental question was asked of all unemployed migrants to measure their risk attitudes. The hypothetical question was posed whereby a migrant had to choose between (a) a job paying his minimum acceptable salary and (b) a job paying twice that salary but with a training period after which he must take an exam with only half a chance of passing. The expected wage in both cases is the same but the second job is risky as opposed to the secure first job. On the basis of their response migrants were classified as risk takers, risk averters and risk neutral. Educated migrants were more likely to be risk takers possibly reflecting the fact

[1]Households in which the head is unemployed and which receive no income are included in this average.

that they live in higher income households. The most interesting finding is that risk takers had been unemployed less than six months while risk averters had been unemployed for one and one-half years. It would appear that migrants generally begin their job search with higher aspirations holding out for a good job but as the period of unemployment lengthens they are willing to revise these aspirations downward.

Summary

An analysis of the employment and earnings of migrants provides useful insights into the urban labor market in which migrants participate. Female labor force participation in our sample is quite low (30 percent) compared to rural areas. Moreover, females of both education levels tend to participate in the small-scale sectors. Males on the other hand particularly those with education are employed in large-scale sectors where the government is the dominant employer.

As expected education is one of the most important determinants of urban earnings. We also found evidence of a dual urban labor market where large-scale sectors--private and government--pay a wage considerably above the wage in small-scale sectors. In fact, wage differences between urban areas could largely be explained by the differences in composition of employment between urban areas.

Migrants who obtain a job, receive in the long run a wage substantially above rural wages although this difference is not large if the migrant is employed in small-scale sectors. In the short run, however, given the probability of unemployment, the expected wage of an uneducated migrant is very little higher than rural wages. This implies that for uneducated labor, the rural and urban labor markets are quite competitive.

There is, however, still a substantial differential in rural and urban wages for educated persons. This helps explain the back and forth mobility of uneducated migrants between rural and urban areas noted earlier.

Unemployment rates for migrants are particularly high averaging 33 percent for young, educated males. However rates of unemployment for migrants are very comparable to unemployment rates among nonmigrant urban residents. Numerically the most important group of unemployed are school-leavers who have not previously worked and who are concentrated in Freetown.

Although unemployment and poverty are widely equated, our survey indicates that this applies only for unemployed persons without education. The educated unemployed are largely supported by relatives with well paying jobs and in fact reside in households with above average incomes.

The unemployed in our sample had been without work for an average of one year. However, evidence was obtained that migrants, particularly school-leavers, are initially risk takers willing to wait for a job consistent with their above average expectations of earnings rather than take the first job available. These results lead us to conclude that urban unemployment is not a critical problem partly because many unemployed are not suffering from poverty and partly because an element of voluntary unemployment is present as migrants wait for the "right" job. However there is a considerable cost of unemployment associated with the loss of on-the-job skill acquisition.

ECONOMETRIC ANALYSIS OF RATES OF MIGRATION

Introduction

From a policy perspective it is not only necessary to know who migrates but to understand factors determining the rate of migration. The elasticity of migration rates to such variables as rural and urban wage rates is clearly an important consideration in formulating migration policy.

Econometric analysis of migration rates is now a standard part of research on migration. However, several problems are inherent in past analyses of this type in developing countries. First migration is often estimated from birthplace information in census data (e.g., Beals, Levy and Moses [1967], Sahota [1968], Adams [1969] and Greenwood [1969]). The use of these data is questionable since migration which has occurred over a long period of time is related to present economic variables which in themselves are a function of past migration flows. Second, most analyses of migration have focused on interregional migration which includes both rural-rural and rural-urban migration (e.g., Beals, Levy and Moses [1967], Sahota [1968]). Although a few studies have delineated rural-urban migration for separate analysis we are not aware of any analysis which examines both rural-urban and rural-rural migration and examines possible differences in structural and behavioral characteristics. Furthermore we have noted that migration rates depend markedly on education. Although this has been observed in other studies the education variable has been very superficially included--usually by using average levels of education for the origin and destination regions. For example, studies in Egypt by Greenwood [1969, 1971], in Ghana by Beals, Levy and Moses

[1967], in Brazil by Sahota [1968] and in Columbia by Schultz [1971] reach quite inconsistent conclusions regarding the effects on migration of education in origin and destination areas. Two recent studies by Levy and Wadycki [1974] and Barnum and Sabot [1975] have disaggregated the population by education and found structural differences in migration rates by educational level which cannot be explained by the effect of education on earnings differentials. Finally measurement of rural incomes is a universal difficulty of almost all analyses of migration. Often proxy variables are included such as regional per capital income (e.g., Sabot [1967] or even per capita food production [Levi, 1973].

In the following analysis some of these deficiencies in earlier analyses are overcome through data collected specifically for the purpose of analyzing migration rates. This survey data was used to compute education specific rates of migration for the last five years as discussed earlier in this report. Migration rates were analyzed for both rural-urban and rural-rural migration. Rural-urban migration rates are analyzed by two educational subgroups using education specific urban wage and unemployment rates. Finally rural wages are obtained from a sample of 25,000 wage observations obtained in a farm management survey.

The Model

The objective of the analysis is to quantify the effects of several variables on migration rates from specific rural destinations to specific rural and urban destinations. The model builds upon our earlier theoretical framework in which costs and benefits of migration are the major determining factors of migration. However, since the objective is to explain aggregate rates of migration and not individual decisions to migrate

variables employed in the model are those that are characteristic of particular rural and urban locations and not variables such as age, sex, urban social ties, etc., which are important in individual decisions but which are not location specific. These latter variables are being included in ongoing micro-analyses on the decision to migrate. Furthermore in analyzing aggregate migration rates scholars are specifically excluded since other variables such as the location and quality of schools are probably more important than variables such as wages used to explain migration of the working population. Finally we include both males and females in computing migration rates. Because the most important reason for female migration is marriage usually to a male from the same rural area, female migration is highly correlated to male migration. In fact, in our sample the correlation coefficient between male and female migration from specific origins to specific definitions was 0.78 for uneducated migrants and 0.87 for educated migrants. For these reasons our model is formulated in terms of variables which are more relevant to male migrants who are largely in the labor force. However since persons in the labor force provide the economic base for other nonworking migrants, particularly housewives from the same area as shown by the above correlations, the model is used to explain total migration (excluding scholars).

The variables of the <u>rural-urban migration</u> model are given by:

$$m^{s}_{ijk} = f\ (W_i,\ W_{jk},\ U_{jk},\ P_j,\ D_{ij},\ e)$$

where m^{s}_{ijk} = the cohort specific gross rate of adult migration for the kth educational cohort from rural origin i to urban destination j

W_i = average daily agricultural wage of adult males in rural region i

W_{jk}, U_{jk} = average monthly income and percentage unemployed respectively for the kth educational cohort of male migrants in the jth urban center

P_j = population size of the jth urban area

D_{ij} = the road distance in miles between the main center of rural region i to urban center j

e = random error

and i = 1, 2,...8, corresponding to the eight rural resource regions of Figure 1

j = 1, 2,...5, corresponding to the five urban centers above 20,000 population--Freetown, Kono, Bo, Kenema and Makeni

k = 1, 2, representing two educational cohorts--less than five years education and greater than five years education.

Some comments on the specification of the variables and the hypothesized relationships are in order. The measure of rural income used here is wage rate rather than household income. This measure of rural income was chosen because (a) it was shown that an active and competitive rural labor market exists [Spencer and Byerlee, 1976] and (b) given this competitive market and dominance of household rather than individual decision making this wage rate should be a close approximation of the supply price of labor [Knight, 1972].[1] Furthermore since females have a low participation rate in the urban labor market, male wage rates were used. However, the same rural wage rate was used for both educational cohorts on the assumption that educated persons receive the same wage rate in traditional farming activities as those without education.

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[1] In the case of individual decision making the relevant income is the value of the <u>average</u> product if income is shared among household members.

Urban wage rates were estimated from wage rates of all working urban migrants analyzed in the previous section. The urban wage is then the weighted average of wage rates in the large-scale and small-scale sectors for each urban destination area. The inclusion of urban unemployment as an explanatory variable, of course, follows the Todaro [1969] model of migration where it is hypothesized that high unemployment rates tend to reduce migration.

The size of the urban area is included to represent a number of factors such as a larger labor market with possibly more perceived opportunities and also urban amenities (i.e., "bright lights"). Distance is also a proxy variable for a number of costs associated with moving including (a) the economic cost of moving and (b) the social costs of leaving home which become greater the longer the move and the more cultural or ethnic differences between home and town. Also distance is likely to be a factor in determining available information.

The model for rural-rural migration is essentially similar. However since education is considerably less significant in rural-rural migration we did not disaggregate by education. Also unemployment is not conceptually meaningful in rural areas and hence is not included in the analysis. Finally an ethnic dummy variable was used to test the hypothesis that rural-rural migrants will move to areas with the same ethnic group to facilitate social adjustment and access to land.

Data and Estimation Procedures

All data with the exception of urban unemployment and urban size were obtained from our survey information. Although urban unemployment data are available from our sample, the sample was too small to estimate education specific unemployment rates for the medium size towns of Bo, Makeni and Kenema. Unemployment data were derived from the urban household survey of the Central Office of Statistics [1967-1971] which we have previously shown to be highly consistent on a national basis with our own unemployment data. Also our sample size prevented us from estimating reliable wage rate data for the small towns (less than 20,000) and hence they were excluded from the analysis.

Migration rates can be both gross and net as defined earlier. From a policy perspective both flows are important. Net flows are an indicator of overall rates of urbanization. However it has been previously established that return migration is dominated by older persons and hence gross flows are a better indicator of those entering the urban labor force--particularly the young who constitute the bulk of the unemployed. A further important factor is the extent to which variations in net migration are the result of variations in gross out-migration or of variations in gross in-migration. In fact in our data the correlation coefficient between net migration and gross out-migration from rural areas is .89[1] while the correlation between net migration and gross in-migration is only -.14. Hence the bulk of variation in net migration from rural areas is due to variations in gross out-migration, a conclusion similar to Beale's [1969] obser-

[1]For subgroups of the migration streams the correlations are slightly lower. The correlation between net and gross migration for uneducated migrants is .68 and for educated migrants is .87.

vations on net and gross migration flows in areas of the United States with a net out-migration rate. For these reasons and because net rates are more unreliable since they include residual errors in estimating rural-urban and urban-rural migration rates, we analyze gross out-migration rates.

The estimation procedure employed was ordinary least squares regression. Both linear and log-log functions were tried but linear functions consistently improved the estimation ability and hence are reported here.

To test if there is any significant difference between the behavior of educated and uneducated migrants, data for both types of migrants were pooled and the following linear relationship was fitted:

$$m_{ijk} = b_0 + b_1E + b_2W_i + b_3EW_i + b_4W_{ijk} + b_5EW_{ijk} + b_6U_{jk}$$
$$+ b_7EU_{jk} + b_8P_j + b_9EP_j + b_{10}D_{ij} + b_{11}ED_{ij} + e,$$

where all variables except E are as defined previously. Following Barnum and Sabot [1975], E is a dummy variable for education such that E = 0 for an observation on uneducated migration and E = 1 for educated migration. The coefficient on these interaction terms indicates whether migration response differs significantly for educated and uneducated migration streams.

Empirical Application of the Model

Table 28 contains the estimated relationships for rural-urban migration by educational subgroups. The first figure below each coefficient is the "t" statistic while the second figure is the elasticity calculated at the mean value of the variables. Up to three equations are reported for each group. First is the standard linear form on all variables in the model. In the case of educated migration, however, strong multicolli-

TABLE 28
GROSS RURAL-URBAN MIGRATION OF ADULTS IN SIERRA LEONE: ORDINARY LINEAR FUNCTION
(Coefficients, t Statistics and Elasticities)

Type of Migration Stream	Reg.	Intercept	$WAGE_I$	$WAGE_J$	$UNEMP_J$	EXP $WAGE_J$	POP_J	$DIST_{IJ}$	$WAGE_{IE}$
Uneducated	Standard	-.3910 (0.264)	-.10406 (0.610) -0.395	.00666* (4.240) 2.345	-.00199 (0.225) -0.146		.00119* (3.565) 0.809	-.00166* (3.956) -1.352	
	Expected Wage	-.05369 (0.379)	-.10413 (0.591) -0.396			.00718* (3.760) 2.232	.00127* (4.676) 0.863	-.00164* (3.818) -1.336	
Educated	Standard	3.2695 (1.229)	-.13638 (0.102) -0.065		-.10052 (0.747) -1.534		.00981* (4.900) 0.838	-.00986* (3.017) -1.009	
	Urban Size Dropped	-5.6964 (1.502)	-.14372 (0.102) -0.069	.08919* (4.240) 4.752	.13370 (0.837) 2.040			-.00875* (2.565) -0.896	
	Expected Wage	-1.8343 (0.834)	-.13606 (0.105) -0.065			.07501* (1.682) 3.211	.00512 (1.404) 0.437	-.01004* (3.199) -1.028	
Pooled	Standard	.04461 (0.797)	-.12036 (0.819)	.00659 (0.093)			.00114 (0.038)	-.00164 (0.048)	
	Urban Size Dropped	-.11995 (0.867)	-.12489 (0.839)	.00546 (0.095)	.01827 (0.199)			-.00120 (0.048)	
	Expected Wage	-.04473 (0.801)	-.1201 (0.806)			.00718 (0 100)	.00127 (0.038)	-.00164 (0.047)	

*Significant t ratio at .05 level.

(Continued)

TABLE 28 - CONTINUED
GROSS RURAL-URBAN MIGRATION OF ADULTS IN SIERRA LEONE: ORDINARY LINEAR FUNCTION
(Coefficients, t Statistics and Elasticities)

Type of Migration Stream	Reg.	$WAGE_J E$	$UNEM_I E$	$EXP\ WAGE_J E$	$POP_J E$	$DIST_{IJ} E$	E	R^2
Uneducated	Standard							.539
	Expected Wage							.494
Educated	Standard							.449
	Urban Size Dropped							.386
	Expected Wage							.478
Pooled	Standard	-.00568 (0.160)	-.09801 (0.721)		.00858* (2.286)	-.00821* (2.499)	3.2105 (0.787)	.571
	Urban Size Dropped	.08372* (4.813)	.11539 (0.963)			-.00754* (2.247)	-5.5857* (2.053)	.521
	Expected Wage			.06783* (1.936)	.00385 (1.307)	-.0084* (2.660)	-1.7987 (1.154)	.592

*Significant t ratio at .05 level.

nearity exists between urban size, P_j, and urban wages, W_{jk}. Therefore, a second run was made in which urban size was dropped. Finally the unemployment variable and wage variable were combined into an expected urban wage variable, W^e_{jk}, as discussed in our earlier analysis of unemployment.[1]

All variables of the model have the predicted sign with the exception of unemployment in some runs and which in any event was not significant. In most cases the explanatory power of the equations is quite high as measured by the R^2 value compared to most cross-sectional analyses of migration.

Distance is consistently a significant deterrent to migration. This deterrent effect as measured by the elasticity is less for educated migrants than uneducated migrants. Furthermore this difference is significant as measured by the negative interaction effect of education and distance in the pooled estimate. This difference can be explained in terms of both economic costs of moving over long distances which are relatively less compared to returns for educated migrants and social costs of adjusting to an alien social and cultural setting which could be less for educated migrants. Educated migrants may also have access to better information and since their migration is more permanent it is more feasible to invest in long distance migration.

Likewise in all regression runs, the size of the urban area is positive and significant. The interaction between education and urban size suggest that this effect is more for educated migrants. This is in

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[1] $W^e_{jk} = (1 - U_{jk})\, W_{jk}$.

accordance with the hypothesis that educated migrants, particularly those with specialized training, will move to a larger market area.

The rural wage rate in this analysis consistently has a negative but not statistically significant impact on migration. Moreover for educated migrants the computed elasticity of migration with respect to the rural wage is negligible at .06 while this same elasticity for uneducated migrants is .39. Although these figures are low it is expected that educated migrants whose returns to migration are much higher will be less responsive to rural incomes.

In contrast, the urban wage rate has a significant and large impact on rural-urban migration. A 1 percent increase in urban wages results in a 2.34 percent and 4.75 percent increase in the migration of uneducated and educated migrants respectively. Further evidence that the educated are more responsive is given by the pooled estimate where the interaction between education and urban wages is significant and positive.

Although unemployment rates in the urban centers of our sample varied from 7 percent to 18 percent it does not have a significant impact on migration in our equation although it is generally in the predicted direction. When combined with the wage rate to give an expected wage, the coefficient of the expected wage variable is significant and positive. However, in most cases it appears that the urban wage rate alone is a better predictor of migration than expected wages.

The estimated equation for rural-rural migration is:

$$M_{ij} = \underset{(1.1532)}{.1015} - \underset{(1.6714)}{.1900W_i} + \underset{(2.1947)}{.1642W_j} + \underset{(1.8211)}{.0002P_j}$$

$$- \underset{(2.4169)}{.0007*D_{ij}} + \underset{(.9207)}{.0325T_{ij}} \qquad R^2 = .569,$$

where M_{ij}, W_i, W_j, P_j, D_{ij} are migration rate, origin rate, destination wage rate, destination population and distance respectively and are defined as before. T_{ij} is a dummy variable which has a value of one if regions i and j have the same dominant ethnic group and zero if the dominant ethnic groups are different. The "t" statistics for each coefficient are in parentheses under the equation.[1]

All variables of the equation have the expected sign and coefficients for the destination wage and distance are significant at the .05 percent level. The ethnic dummy variable although not significant does indicate that rural-rural migration is increased when two regions have the same ethnic groups.

The elasticities of migration for origin wage and destination wage are -2.7 and 2.5 respectively indicating that rural-rural migration is quite elastic with respect to changes in rural wage rates.

One implication of this analysis is that an increase in wage rates in a given rural region has a larger effect on rural-rural migration than rural-urban migration. This is in part due to the fact that rural-rural migration involves little change in life styles and occupations and is usually over only a short distance so that rural-rural migration is more likely to respond to changes in income differentials.

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[1]The data for rural-rural migration allows a number of independent estimates of gross migration rates since out-migration of one region are in-migrants of another region. The results reported here are derived from out-migration rates.

Implications of the Analysis

The econometric analysis of migration rates was quite successful in predicting the urban destination of migrants in terms of urban wages, distance and urban size. However, the model is not a good predictor of the rural origin of migrants. This we believe is not so much a reflection of the model or the data but rather the aggregate nature of the approach employed. Whereas we have five urban centers each with particular locational, industrial and labor market characteristics and which are therefore relatively homogeneous units, we have rural regions which although stratified with respect to agricultural systems nonetheless include great heterogeneity with respect to such factors as (a) household income, (b) village size, (c) ease of communication, (d) ethnic groups and (e) amenities such as schools. It is hypothesized that a micro-economic model of the decision to migrate including these variables will be a better predictor of the rural origin of migrants.

Within these limitations of an aggregate model some general implications are apparent. In particular it is clear that there are differences in the behavior of migrants with different levels of education. Educated migrants are less influenced by rural wages and distance and more influenced by urban wages and urban size. But in both cases migration rates are relatively less sensitive to rural wages than urban wages--a finding that could have significant policy implications as discussed in the next section.

Finally an important result of the analysis is that urban unemployment has relatively little effect on the rate of migration as measured by both the low statistical significance of the coefficient on the unemployment variable and the elasticity of migration with respect to urban

unemployment. This finding is contrary to the central importance of urban unemployment in the Todaro theory of migration [Todaro, 1969]. One possible explanation for this finding is that econometric analysis of cross sectional data is limited in isolating the effect of unemployment which is correlated with other variables particularly urban size and urban wages. However a more plausible explanation involves the method of computing expected wages in the Todaro theory where it is assumed that unemployment results in zero income. But we have earlier shown that the urban unemployed receive support while searching for a job and that educated migrants in particular live in households with above average incomes. Migrants, therefore, may not regard unemployment as a severe hardship and if so will not be responsive to unemployment rates. A fuller understanding of this phenomenon clearly requires more analysis of the motives for the extensive intra-urban income transfers between working and nonworking migrants that we observed in urban areas.

SUMMARY AND POLICY IMPLICATIONS

The comprehensive survey of migration in Sierra Leone on which this study is based was initiated to achieve several objectives--that is (a) to increase the understanding of rural-urban migration processes in Africa and in Sierra Leone in particular, (b) to develop and test a theoretical schema and survey methodology for migration research and (c) to evaluate the effects of policies on migration. We now turn to a summary of our most important findings with respect to each of these objectives with a view toward identifying gaps in migration theory and methodology and formulating policies toward migration.

Summary of Major Empirical Findings in Sierra Leone

In Sierra Leone, the major rural-urban migration streams are to the diamond mining areas of Kono and to the capital city of Freetown. About 1.4 percent of the rural population depart for urban areas each year although because of return migration the net flow is only .5 percent of the rural population. Rural-urban migration results in urban growth rates as high as 9 percent per annum in the Kono area--the second largest urban complex.

The young and educated are dominant in rural-urban migration. However, there are marked regional differences in Sierra Leone with most educated migrants originating in the southern regions and uneducated migrants originating in northern regions. Significantly also educated migrants originate in higher income households and uneducated migrants originate in low income households regardless of region.

Education plays a major role in migration behavior. Because the rural-urban income differential is larger for educated migrants their

migration is relatively unresponsive to rural incomes. At the same time they are highly responsive to changes in urban wages.

Rural household heads and parents of migrants are important in migration decision making largely because of the young age of migrants. Although rural people who migrate to seek work are numerically only about one-quarter of the total number of migrants, these working migrants provide the economic means for other groups such as scholars and housewives who have a low labor force participation to move to town. Rural people have quite good perceptions of urban employment and wages although these perceptions are subject to wide variation. There is also some evidence that those who migrate have higher expectations than is realistic. These high expectations are maintained in town as migrants search for a job with the help of urban relatives who support them over their period of unemployment and even for some time after they obtain a job.

One-third of young migrants between 15 and 24 years of age are unemployed but this figure probably overstates the problem since there is evidence that many unemployed reside in higher income households and are to some extent voluntarily unemployed until they find a job of their choice or revise their aspirations accordingly. The labor market in which urban migrants participate exhibits dual characteristics with large-scale sectors paying government wage scales above the competitively determined wages in small-scale sectors.

Migrants often maintain close contacts with their home through visits and remittances. The value of remittances is, however, relatively small and unlikely to contribute much to urban-rural resource transfers. Migrants do, however, acquire property in rural areas and also have little difficulty in maintaining rights to land in their home area. This ease

of access to land undoubtedly contributes to the substantial return migration from urban to rural areas. Return migrants are older, poorly educated and have resided in smaller urban areas a short distance away where retirement and economic hardship are major reasons for returning home.

Summary of Theoretical and Methodological Findings

Our analysis of rural-urban migration in Sierra Leone is based on a modified cost/returns model of the decision to migrate. The results confirm that economic variables--particularly rural and urban wages are important in determining migration although effects of these variables depend importantly on the level of a migrant's education. A significant finding of this analysis is that the level of urban unemployment does not appear to have much influence on migration in Sierra Leone. We have hypothesized that because unemployment does not necessarily impose economic hardship on migrants who are supported by relatives in their job search, the potential impact of unemployment on migration is considerably dampened. This hypothesis does point toward the need for more understanding of the motives and obligations inherent in the urban support system in order to analyze the role of unemployment in migration.

Our analysis of determinants of rural-urban migration was based on the wage rates for males in rural and urban areas although women were shown to be almost half of all rural-urban migrants. Implicit in this analysis is that women are mostly dependents of male migrants. In further work we plan to examine women's migration in more detail and particularly the role that economic factors such as rural-urban differentials in household income and female labor force participation play in the decision of women to migrate.

The importance of return migration suggests that our theoretical framework needs to be broadened to include this aspect of migration. Economic factors relating to the difficulty of obtaining an urban job and urban support were shown to be important. Further understanding of the urban support system would help to explain why some migrants return while others remain even after periods of prolonged unemployment.

Attitudes and perceptions of migrants have been shown to be important both in the decision to migrate and in job search. For example, it was shown that unemployed migrants in their early stages of job search are risk takers. A similar method could be used to measure the risk attitudes of potential migrants in rural areas. Further work is also needed to understand what factors determine the attitudes and perceptions that we observed among migrants.

The integrated methodology used in this study demonstrates the need for basing migration surveys in rural areas in order to analyze migration decision making and accurately measure rural incomes. The tracing of migrants into town was also a unique aspect of the methodology employed here. This method provided more comparability between rural and urban areas. However, in the econometric analysis of migration rates we aggregated our results into eight rural regions losing much of the richness contained in the micro data and contributing we believe to the relatively poor explanatory power of our model in rural areas. In ongoing work we are constructing a model of the decision to migrate which will be tested using micro data on rural household incomes, individual's education and village characteristics such as its ease of communication with towns.

Policy Implications

Variables of the migration decision such as rural and urban incomes are affected by almost every policy decision. In fact, migration is more often influenced unintentionally by policy decisions on rural investment, urban wages, etc., than by policies designed and evaluated for their effect on migration. There are also some elements of the decision to migrate that are relatively insensitive to policy--for example, the cost of migration.

The most important policy variables and the elements of the migration decision they influence are identified in Figure 1 (page 7). We discuss each of these in relation to the three dimensions of the migration problem: (1) the rate, (2) the concentration and (3) the composition of rural-urban migration.

Policies to Raise Rural Incomes

Raising rural incomes is the most widely expounded method for reducing rural-urban migration. However, through disaggregation of migration streams by educational level we have shown that compared to uneducated migrants (a) educated migrants originate in higher income households and regions of the country, (b) the rural-urban earnings differential for educated migrants is large and (c) the rate of migration with respect to rural incomes is much more inelastic for educated migrants. Hence our analysis indicates that raising rural incomes by 1 percent will reduce migration of the uneducated by 0.4 percent compared to a negligible 0.065 percent decline in the number of educated migrants. Raising rural incomes is therefore only useful as a policy instrument for uneducated migrants.

Within these qualifications, government policies do affect both the level of and distribution of rural incomes. Governments promote or retard

rural development according to their allocation of investment to rural sectors. For example, in Sierra Leone in the 1960s, public investment in the agricultural sector was only about 5 percent of total public investment. However, in recent years with increasing food imports this figure has risen and is now about 25 percent of total investment in the new plan for 1974-1978. This drastic jump is predicted to increase the growth rate of the agricultural sector from 1.6 percent to 4.6 percent and hence raise rural incomes.

Perhaps more important than public investment allocation is the pricing strategy adopted by the government. In Sierra Leone an important device for extracting the agricultural surplus is marketing board taxation of export crops. During 1969-1973 prices paid to farmers for ginger, coffee and cocoa were less than half of world market prices. Pricing margins of this magnitude can significantly retard growth of rural output and income and it is notable that recent export pricing policy has been revised in favor of the farmer.

Finally rural incomes are adversely affected by various tariff policies which force the rural sectors to bear the costs of domestic large-scale industry through higher prices for agricultural and rural small-scale industry inputs. Inputs for urban large-scale industries are nearly always duty free while small-scale industries which are mostly located in rural areas often have to pay duties on almost all their inputs such as tools, cloth and dyes.

Raising <u>average</u> rural incomes is not a sufficient condition for reducing out-migration from agriculture, since we have shown that unskilled migrants originate in poorer households. That is, a policy of raising rural incomes must ensure that income distribution is also improved. In

Sierra Leone as in many African countries one of the major reasons for interregional disparities in rural incomes is the suitability of the region for export crops (e.g., coffee and cocoa in the Moa Basin). Thus raising the prices paid to farmers by marketing boards for export crops would be unlikely to significantly reduce out-migration since incomes are already higher in these regions and out-migration of unskilled labor relatively low.

Choice of technology, too, clearly plays a role in shaping income distribution. Capital intensive technologies promoted by many fiscal and wage policies are likely to be much more beneficial to larger farmers with the resources to adopt these technologies. Even labor intensive technologies employing improved seeds and fertilizer may not benefit low income rural households unless appropriate institutions such as credit sources are provided for this group of the rural population.[1]

Policies Affecting Urban Incomes

Our analysis consistently demonstrates that one of the most important factors determining the rate of migration is the urban wage rate. Moreover the elasticity of migration with respect to urban wages is particularly high for educated migrants--a 1 percent increase in urban wages increases rural-urban migration of the educated by more than 4 percent compared to a 2.3 percent increase in migration of the uneducated. Furthermore the government wage policies are critical in determining urban wages.

Government minimum wage policies have often been criticized for artificially increasing urban incomes for reasons of social justice

[1]Specific policy measures for increasing rural incomes and changing income distribution are discussed in a forthcoming report by Spencer and Byerlee [1976].

(e.g., Eicher, et al. [1970] and Todaro [1971]). In Sierra Leone government wages increased much faster than rural incomes in the 1960s following independence [Saylor, 1967]. However, urban wage increases have been less in recent years as a result of inflation and of the fact that the government is beginning to take account of existing wide rural-urban income disparities in setting government wage scales. In Sierra Leone minimum wages rose 30 percent from 1967-1973 but the consumer price index for this income bracket increased 50 percent indicating a substantial drop in real wages. Nonetheless we have shown that a considerable wage gap still exists between large-scale and small-scale sectors in urban areas and between rural and urban areas which should be considered in setting future government wage scales.

Employment in large-scale sectors at these relatively higher wages is a major attractive force of urban sectors. Policy makers and planners influence employment in this sector through the allocation of investment resources between large-scale and small-scale sectors particularly in manufacturing. Large-scale modern manufacturing for import substitution is widely believed to be the driving force in development and hence receives a large share of investment. In Sierra Leone small-scale industries account for over 90 percent of industrial employment, yet investment in these sectors is only one-sixth of total industrial investment in the new plan.

A second important aspect of the large-scale sectors is location which influences the concentration of migration. Two-thirds of large-scale sector (including government) employment in Sierra Leone is located in the largest urban area, Freetown, where infrastructure is best developed. Only mining, which is determined by location of mineral resources is the

exception. In contrast small-scale industry which is less dependent on infrastructure is more evenly distributed with the majority of employment being in rural areas [Liedholm and Chuta, 1976].

Although it is unrealistic to locate large-scale industry in rural areas to reduce the rate of migration, the concentration of migration can be influenced through decentralization to middle size urban areas throughout the country. One vehicle for achieving this is through provision of adequate infrastructure such as industrial parks and electricity. Furthermore a shift in emphasis away from import substituting industries using imported raw materials to agro-based industries clearly aids in such a decentralization policy since industry can be located near the source of raw materials.

Finally the government itself is the major employer in the large-scale sector. Again except for local government, two-thirds of government employment is in the largest urban area--Freetown. To a large extent, this reflects centralization of administration, but higher per capital government services such as utilities, education, etc., in urban areas are also a factor. Thus government efforts to decentralize administration and provide more equitable distribution of services are one way to lower migration, particularly of educated migrants to the largest urban areas.

Food Pricing Policies

Perhaps the strongest weapon for changing the balance between rural and urban incomes is food prices. On the one hand prices of domestically produced foods are a major determinant of rural incomes. On the other hand, food is the main commodity purchased by urban consumers. Thus a policy of raising food prices has the double effect of raising rural incomes and

lowering urban real incomes ceteris paribus. Of course to the extent that urban wages are tied to a cost of living index, this decrease in urban incomes can be negated but even here there is likely to be a considerable delay in raising urban wages.

Sierra Leone rice import and pricing policy provides an interesting example of food pricing policy. In 1973 the government subsidized urban rice prices to the extent of twelve million dollars per year thus simultaneously keeping farm incomes low and preventing a loss of purchasing power by urban consumers in a period of substantial increases in world rice prices. However, as a result of the heavy drain on the government budget and the lack of incentive to rice producers the government completely reversed itself and doubled rice prices in 1974. Since rice production appears to have increased substantially and at the same time urban wages have not changed we can expect a substantial reduction in migration although we have no data as yet to support it.

The major drawback to raising food prices is its adverse impact on lower income urban consumers because food is a large proportion of their expenditures. Hence, unskilled migrants with low incomes experience a larger drop in real income than educated migrants who may not be much affected by this policy. The policy also requires a government to have considerable rural political support for its implementation.

Educational Policies

Throughout this paper we have noted that investment in education in rural areas and the rate of migration are positively related. Hence policies which influence the amount of investment in education in rural areas will also affect migration of school-leavers. We can conveniently subdivide

educational policies into those that affect (a) the returns to education, (b) the costs of education and (c) the location and quality of educational institutions.

The comparison of urban wages by education level indicated substantial returns to educational investment. Part of the reason for this stems from a salary structure inherited from the colonial period. Also the private returns to education are increased by the tendency to use education qualifications as a criteria for employment even for unskilled jobs [Sabot, 1971]. Although it may be possible to reduce migration through changes in salary structures and hiring practices to reduce rural investment in education, education is seen as a desirable goal in itself and it will not be palatable to discourage educational investment for reasons of reducing migration.

A more acceptable approach is to change the relative returns to education in rural and urban areas. One such policy would be to increase returns to education in rural areas by reorientating curriculums toward rural vocations such as agriculture and through rural development programs that require educated manpower. Interviews with urban migrants indicated that rural areas could be attractive to school-leavers when these conditions prevailed and rural earnings were equivalent to urban jobs. In addition, since educated migrants tend to gravitate to large towns a decentralization policy for large-scale industry and government administration could divert educated migrants to smaller urban areas. While not reducing the rate of migration this change in direction would reduce the problem in the largest cities.

Costs of education consist of (a) cash costs of school fees, books, uniforms, etc., and (b) opportunity costs of labor removed from agricultural production. The former is a variable clearly influenced by policy

decisions. For example, reduction in school fees has tended to increase total private investment in education although we have no measure of the degree of responsiveness to this change. Likewise labor saving innovations, such as mechanical cultivation may reduce the opportunity cost of a scholar's labor. Again, however, there is a trade-off between reducing rural-urban migration and increasing education and it is unlikely that a government will actively employ policies to increase the costs of education.

As noted earlier 25 percent of rural-urban migrants are scholars. About half of all secondary schools in Sierra Leone are located in the largest towns, although this proportion is decreasing as more rural secondary schools are built. Both the location and quality of schools are variables amenable to policy. Government policies to establish more and better quality secondary schools in rural areas therefore have potential for reducing rural-urban migration.

Distribution of Social Amenities

Our survey reveals that migrants in urban areas regard availability of social amenities such as schools, hospitals and water supply as significant benefits of migration. As with the concentration of manufacturing and government services in large urban centers, there is also a heavy concentration of social amenities in urban areas particularly Freetown. For example, in the new plan, 80 percent of increased electricity generation will be in Freetown. A policy of decentralizing social amenities would also be important in encouraging industry to locate outside the capital city.

Policies Affecting Urban Living Costs

Migrants moving to urban areas have to take account of higher urban costs of living. At times governments have implemented policies to alleviate the higher cost of living. In particular low-cost housing schemes have been set up in Freetown to try to improve housing standards and lower rents. However, in a variant of the Todaro model, these schemes may be frustrated since they raise real incomes, induce more migration and create still more housing problems. It is significant too that low-cost housing schemes are rarely implemented in small towns and rural areas.

Policies Affecting Information Flows

There is some evidence from our survey that migrants come to urban areas with unrealistic expectations of economic opportunities. In most cases information is provided by relatives and friends or by prior visits of the migrant to the urban area and as such, information flows are outside the policy arena. However, employment registration and the media do play a role in disseminating employment opportunties. For example, a policy could be adopted, providing free advertisements for job openings outside of the large cities.

Policies Directly Controlling Migration

Beyond the above policies, it is possible to influence rural-urban migration through direct control of the movement of people into urban areas. In Sierra Leone and several other countries a special permit is needed to enter the diamond mining towns. However, it is doubtful that this has had much effect on migration because of the difficulty of policing the system. On a nationwide scale such a system would be even more unworkable.

The above analysis of policies affecting rural-urban migration considers only the micro-economic impact of policies on the decision to migrate. Clearly policies to raise rural incomes or change food prices have broader macro-economic impacts on all sectors of the economy and which have additional implications for migration. This analysis of migration in a broader macro-economic framework is the subject of a forthcoming report.

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